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North Carolina
Department of Agriculture
Biennial Report
1964 - 1966

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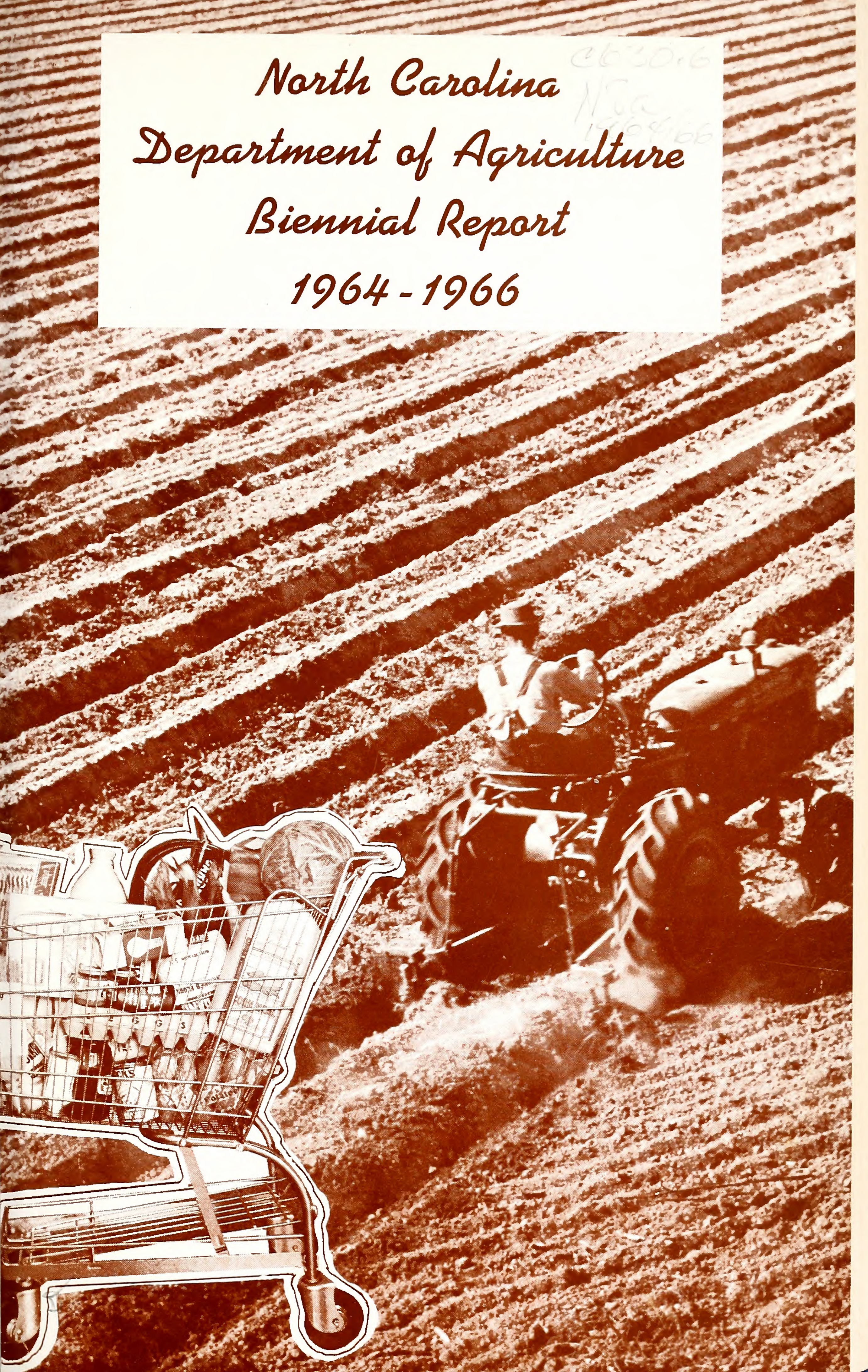

BIENNIAL REPORT

for 1964-1966

NORTH CAROLINA
DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER
JOHN L. REITZEL, ASSISTANT COMMISSIONER

RALEIGH, N. C.

10-66—1½M

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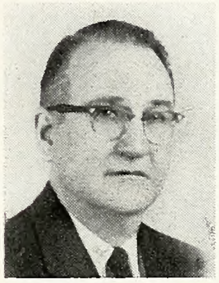
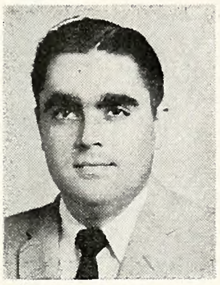
STATE BOARD OF AGRICULTURE

June 30, 1966

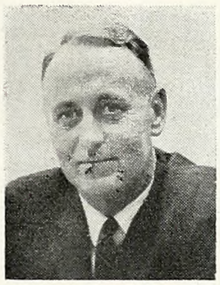
JAMES A. GRAHAM, *Commissioner*
Ex-Officio Chairman

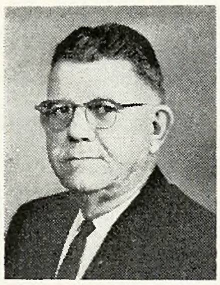
J. Atwell Alexander
Stony Point


Richard N. Barber, Jr.
Waynesville

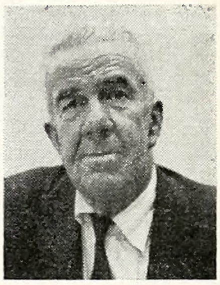

Thomas O. Gilmore
Julian

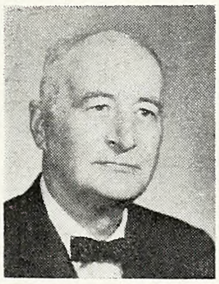
Claude T. Hall
Roxboro

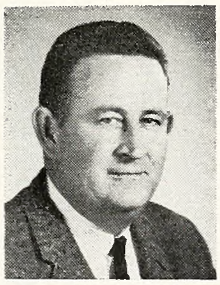

Thomas G. Joyner
Garysburg


George P. Kittrell
Corapeake

Charles F. Phillips
Thomasville


J. Hawley Poole
West End


Henry Gray Shelton
Speed


David Townsend, Jr.
Rowland

Others who served on the Board during a part of this biennium were:

HOYLE C. GRIFFIN	Monroe
A. B. SLAGLE	Franklin
DAVID TOWNSEND, SR.	Rowland

John L. Reitzel

Assistant Commissioner of Agriculture

JAMES A. GRAHAM

Commissioner of Agriculture

PERSONNEL
of the
STATE DEPARTMENT OF AGRICULTURE
June 30, 1966

James A. Graham, *Commissioner*

Administration

John L. Reitzel	*Assistant Commissioner*
Elizabeth B. Barefoot	*Stenographer II*
Hazel I. Horner	*Stenographer III*
Virginia P. Johnson	*Administrative Secretary*

Division of Accounts

Grace H. Malloy	*Accountant III*
Becky E. Adams	*Stenographer II*
Betty P. Bunn	*Accounting Clerk I*
Roy D. High	*Accountant II*
Elsie W. Jordan	*Accountant I*
Gertrud H. Lare	*Accounting Clerk II*
Elizabeth W. Mitchiner	*Accounting Clerk III*
Geraldine P. Narron	*Stenographer III*
Phyllis P. O'Neal	*Typist II*
Beulah B. Pearce	*Cashier I—Dept. of Agriculture*
Sarah K. Sanderson	*Accounting Clerk I*
Peggy Y. Smith	*Cashier II—Dept. of Agriculture*
Lunelle Yeargan	*Accounting Clerk IV*

Publicity and Publications

M. Pauline DeCosta	*Public Information Officer III*
Bettye T. Rogers	*Clerk II*
Willie L. Smith	*Clerk I*
Louise T. White	*Stenographer II*

Custodial

Henry L. Hall	*Stock Clerk I*
Robert Harris	*Stock Clerk I*

Inspection

Arthur G. Campbell, Jr.	*Feed, Fertilizer & Insecticide Inspector I*
E. H. Cooper	*Tax Auditor III*
Ewell E. Evans	*Tax Auditor II*
Harvey C. McPhail	*Feed, Fertilizer & Insecticide Inspector I*
Thomas M. Parker	*Feed, Fertilizer & Insecticide Inspector I*
James R. Stevens	*Feed, Fertilizer & Insecticide Inspector II*
Carl C. Williams	*Feed, Fertilizer & Insecticide Inspector I*

Entomology Division

George D. Jones	*State Entomologist*
Hugh I. Alford, Jr.	*Entomologist II*

Alfred S. Elder	*Entomologist II*
James F. Greene	*Entomologist III*
Roy M. Schmarkey	*Entomologist II*
Jesse F. Sessions	*Entomologist II*
Barbara M. Williams	*Stenographer II*
D. L. Wray	*Entomologist III*

Weights and Measures Inspection

John I. Moore	*Director*
Marion L. Kinlaw, Jr.	*Weights & Measures, Gasoline & Oil Inspection Supervisor*
Cecil C. Abernathy	*Weights & Measures Inspector*
James G. Barnes	*Heavy Duty Scale Inspector I*
Walter R. Burnette	*Heavy Duty Scale Inspector II*
Thomas W. Cloninger	*Weights & Measures Inspector*
Grady F. Hall	*Weights & Measures Inspector*
Lester B. Hardin	*Weights & Measures Inspector*
Grover R. Kiser	*Weights & Measures Inspector*
Alice S. Long	*Stenographer II*
Dianne P. Nichols	*Stenographer II*
Randolph F. Peaks	*Heavy Duty Scale Inspector II*
Donnie G. Perry	*Weights & Measures Inspector*
William H. Perry	*Liquid Fertilizer Specialist*
Leroy S. Plyler	*Weights & Measures Inspector*
Ned A. Powell	*Heavy Duty Scale Inspector II*
William D. Taylor	*Weights & Measures Inspector*
James M. Vestal, Jr.	*Weights & Measures Inspector*
Dan Cecil Worley	*Weights & Measures Inspector*

State Meat and Poultry Inspection

Earl W. Stapp	*State Supervisor, Meat & Poultry Inspection*
William L. Abbott	*Veterinarian III*
Edward M. Athay	*Meat & Poultry Inspector I*
Clarence B. Barker	*Meat & Poultry Inspector I*
Walter V. Batchelor	*Meat & Poultry Inspector I*
Julian C. Beale	*Meat & Poultry Inspector I*
Wade W. Beasley	*Meat & Poultry Inspector I*
Claude W. Bentley	*Meat & Poultry Inspector I*
Wallace E. Birch	*Veterinarian II*
Archie C. Bone	*Meat & Poultry Inspector I*
Travis B. Bowick	*Meat & Poultry Inspector I*
Van L. Bowman	*Meat & Poultry Inspector I*
Billy R. Bradshaw	*Meat & Poultry Inspector I*
Jasper F. Brisson, Jr.	*Meat & Poultry Inspector I*
Wiley G. Broughton	*Meat & Poultry Inspector I*
Henry C. Brown	*Meat & Poultry Inspector I*
Alden E. Bryson	*Meat & Poultry Inspector I*
Alvin G. Buchanan	*Meat & Poultry Inspector I*
William C. Buchanan	*Meat & Poultry Inspector II*
Frank D. Burns	*Meat & Poultry Inspector I*
Eddie W. Cain, Jr.	*Meat & Poultry Inspector I*
Hugh B. Campbell	*Veterinarian II*
James M. Cashwell	*Meat & Poultry Inspector II*
Sadie H. Chase	*Meat & Poultry Inspector I*
Sylvester H. Clayton	*Meat & Poultry Inspector I*
Algie D. Cobb	*Meat & Poultry Inspector I*
William E. Crawford	*Meat & Poultry Inspector I*
Charles M. Credle	*Meat & Poultry Inspector I*
James E. Creel	*Meat & Poultry Inspector I*

Lewis J. DeMarcus	*Meat & Poultry Inspector I*
Leola D. Drake	*Stenographer II*
Norman C. Eason	*Meat & Poultry Inspector I*
Cecil E. Edwards	*Meat & Poultry Inspector I*
James B. Edwards	*Meat & Poultry Inspector I*
Waitus H. Edwards	*Meat & Poultry Inspector I*
William D. Estep	*Meat & Poultry Inspector I*
Ruie A. Eubanks, Jr.	*Meat & Poultry Inspector I*
Lindsay B. Fant	*Meat & Poultry Inspector I*
Linwood E. Felts	*Meat & Poultry Inspector I*
John F. Ford	*Meat & Poultry Inspector I*
Robert L. Foster	*Meat & Poultry Inspector I*
William K. Fry	*Meat & Poultry Inspector I*
Kenneth W. Gardner	*Meat & Poultry Inspector I*
Clifford W. Goodwin	*Meat & Poultry Inspector I*
Henry L. Hall	*Meat & Poultry Inspector I*
Hubert L. Helms	*Meat & Poultry Inspector I*
Henry H. Herman	*Meat & Poultry Inspector I*
James F. Holcomb	*Meat & Poultry Inspector I*
Kenneth R. Hoover	*Meat & Poultry Inspector I*
Conley G. Isenberg	*Veterinarian II*
Dallie B. Jackson	*Meat & Poultry Inspector I*
Eugene R. Jackson	*Meat & Poultry Inspector I*
James M. Jackson, Jr.	*Veterinarian II*
James T. Jackson	*Meat & Poultry Inspector I*
Daniel E. V. Johnson	*Meat & Poultry Inspector I*
James E. Johnson	*Meat & Poultry Inspector I*
Charles E. Jones	*Meat & Poultry Inspector I*
Cornelius W. Jonkheer	*Meat & Poultry Inspector I*
Arthur B. Kaufman	*Meat & Poultry Inspector I*
George M. Kerr	*Veterinarian II*
William P. Lassiter	*Meat & Poultry Inspector I*
James C. Long, Jr.	*Meat & Poultry Inspector I*
Edmond G. Massad	*Meat & Poultry Inspector I*
Woodrow E. McGimsey	*Meat & Poultry Inspector II*
Rommie F. Medlin	*Meat & Poultry Inspector I*
William C. Medlin	*Meat & Poultry Inspector I*
Richard W. Menius	*Meat & Poultry Inspector II*
Robert R. Miller	*Veterinarian II*
Ford W. Morris	*Meat & Poultry Inspector I*
Clare W. Nielsen	*Meat & Poultry Inspector I*
Thomas O. Nilsen	*Meat & Poultry Inspector I*
Houston Odom	*Veterinarian II*
Charles R. Oxford	*Meat & Poultry Inspector I*
Joseph W. Padgett	*Meat & Poultry Inspector I*
Herbert R. Palmer, Sr.	*Meat & Poultry Inspector I*
Glenn O. Park	*Meat & Poultry Inspector I*
Charles M. Parrish	*Meat & Poultry Inspector I*
Fred R. Parrish	*Meat & Poultry Inspector I*
Ophelia Pickett	*Meat & Poultry Inspector I*
Basil W. Pshyk	*Veterinarian II*
James R. Radford	*Meat & Poultry Inspector II*
Joseph V. Randolph	*Meat & Poultry Inspector I*
Lewis C. Ransom, Jr.	*Meat & Poultry Inspector I*
Harvey G. Roper	*Meat & Poultry Inspector I*
Clarence E. Rose	*Meat & Poultry Inspector I*
Roxie R. Siler	*Meat & Poultry Inspector I*
Thomas Lee Sink	*Meat & Poultry Inspector I*
Richard W. Spivey, Sr.	*Meat & Poultry Inspector I*
Charles L. Staton, Jr.	*Meat & Poultry Inspector I*
Walter C. Stone	*Meat & Poultry Inspector I*

George M. Sullivan	*Meat & Poultry Inspector I*
William G. Sullivan	*Veterinarian II*
Arie B. Sykes, Jr.	*Meat & Poultry Inspector I*
James W. Tillman	*Meat & Poultry Inspector I*
Peggy R. Upchurch	*Stenographer II*
Gilda F. Wade	*Meat & Poultry Inspector I*
Don H. Walker	*Meat & Poultry Inspector I*
Elvis C. Wall	*Meat & Poultry Inspector I*
Harold L. Warlick	*Meat & Poultry Inspector I*
Zeno H. Weaver	*Meat & Poultry Inspector I*
James C. Wheeler	*Meat & Poultry Inspector I*
James C. White	*Meat & Poultry Inspector I*
Lewis L. Wiseman	*Meat & Poultry Inspector II*
Labin T. Woodlief	*Meat & Poultry Inspector I*
Richard C. Yarbrough	*Meat & Poultry Inspector II*

Egg Inspection

Bobby G. Austell	*Marketing Specialist II*
Ann K. Hicks	*Stenographer II*
George E. Ingram	*Marketing Specialist I*
Wilson T. Leggett	*Marketing Specialist I*
William H. McCullen	*Marketing Specialist II*
Arthur C. McCurry	*Marketing Specialist II*
Larry E. Tetterton	*Marketing Specialist III*

Markets Division

John A. Winfield	*Director of Agriculture Markets*
Eugene G. Boney, Jr.	*Marketing Specialist II*
Wilbur S. Brannan	*Marketing Specialist III*
Ruby P. Britt	*Stenographer III*
Louise W. Byrum	*Stenographer III*
Charles L. Campbell, Jr.	*Marketing Specialist IV*
John H. Cyrus	*Marketing Specialist IV*
Charles H. Davis	*Marketing Specialist II*
Louise T. Dunn	*Stenographer III*
James W. Earp, Jr.	*Marketing Specialist II*
Charles D. Edwards	*Marketing Specialist II*
Charles B. Elks	*Marketing Specialist IV*
William J. Feimster	*Marketing Specialist III*
Billie A. Fuller	*Stenographer II*
Joe B. Gourlay	*Marketing Specialist III*
Thomas E. Green, Sr.	*Marketing Specialist III*
Norwood O. Hargrove	*Marketing Specialist II*
Glen C. Hatcher, Sr.	*Marketing Specialist III*
James F. Hockaday, Jr.	*Marketing Specialist III*
Julius P. Jenrette	*Marketing Specialist IV*
Wallace G. Johnson	*Marketing Specialist III*
Henry S. Kennett	*Marketing Specialist II*
Ethel Y. Kiker	*Marketing Specialist III*
Katherine B. Koppen	*Stenographer III*
William E. Lane	*Marketing Specialist IV*
Bryant C. Langston, Jr.	*Marketing Specialist II*
Opal M. Liles	*Laboratory Technician II*
Staley S. Long, Jr.	*Marketing Specialist III*
Hugh B. Martin	*Marketing Specialist IV*
Neill A. Morrison, Jr.	*Marketing Specialist III*
Roger L. Mozingo	*Marketing Specialist III*
Hobart W. Myrick	*Marketing Specialist III*
Mary L. Norman	*Stenographer II*

Linda S. Nunalee	*Marketing Specialist II*
Frances L. O'Neal	*Stenographer II*
Nichols L. Paul	*Marketing Specialist III*
Arvid T. Peak	*Marketing Specialist II*
Lois M. Pleasants	*Laboratory Technician III*
Joseph A. Powell	*Marketing Specialist III*
H. D. Quessenberry	*Marketing Specialist IV*
B. S. Rich	*Marketing Specialist IV*
Larry C. Roberson	*Marketing Specialist III*
Ellis B Shands	*Marketing Specialist III*
Carson W. Sheffield	*Marketing Specialist IV*
Beatrice L. Smith	*Stenographer III*
Curtis F. Tarleton	*Marketing Specialist V*
Elizabeth L. Taylor	*Stenographer II*
Carl H. Tower	*Marketing Specialist III*
Euris R. Vanderford	*Marketing Specialist III*
Grace F. Watkins	*Laboratory Technician I*
Pauline M. Watkins	*Typist I*
Dewey C. Wayne	*Marketing Specialist IV*
Sara P. Wells	*Stenographer III*
William A. Wilder, Jr.	*Marketing Specialist III*
Barbara J. Wood	*Stenographer II*

Dairy Division

Francis Patterson	*Director of Dairy Services*
Garnie E. Anderson	*Dairy Specialist II*
Lafayette H. Boykin, Jr.	*Dairy Specialist II*
Charles W. Dunn	*Laboratory Helper*
Paul R. Jordan, Jr.	*Bacteriologist II*
John R. McGlamery	*Dairy Specialist II*
Dolores McG. McLamb	*Stenographer II*
W. L. McLeod	*Dairy Specialist III*
Philip O. Nichols	*Dairy Specialist II*
Robert G. Parrish	*Dairy Specialist II*
Marie W. Perry	*Laboratory Technician III*
Margaret L. Stubbs	*Chemist I*
Giles M. Williams	*Dairy Specialist II*

Seed Testing

George E. Spain	*Director of Seed Testing*
William W. Allen	*Seed Specialist*
James M. S. Blocker	*Seed Specialist*
Magdalene G. Brummitt	*Seed Analyst III*
Robert C. Burris	*Seed Specialist*
Billie H. Darden	*Seed Analyst I*
Virginia B. Griffin	*Seed Analyst II*
Theodora W. King	*Seed Analyst II*
Joseph I. Lewis	*Seed Specialist*
Fred L. McHan	*Seed Specialist*
Murphy G. McKenzie, Jr.	*Seed Specialist*
Jewell G. Stallings	*Seed Analyst I*
Cornelia S. Strickland	*Seed Analyst II*
Virginia L. B. Teal	*Seed Analyst II*
Mildred W. Thomas	*Seed Analyst II*

Analytical

E. W. Constable	*State Chemist*
Sidney M. Albritton	*Chemist II*

Theron Alexander	*Chemist II*
Henry O. Austin	*Feed, Fertilizer & Insecticide Inspector I*
Henry W. Barnes, Jr.	*Chemist III*
Elizabeth F. Bartholomew	*Microanalyst*
Stanley E Berkshire	*Food, Drug & Costmetic Inspector*
Calvin E. Brim	*Laboratory Helper*
Burney A. Britt	*Chemist II*
David E. Buffaloe	*Chemist III*
William B. Buffaloe	*Chemist III*
Thomas E. Carriker, Jr.	*Food, Drug & Cosmetic Inspector*
Margaret B. Carter	*Food Chemist*
James A. Chapman	*Laboratory Helper*
Frances H. Colvin	*Typist III*
Dorothy M. Davis	*Stenographer III*
Jerry M. Dismukes	*Chemist II*
John J. Filicky	*Chemist II*
Evelyn A. Freeman	*Stenographer II*
Robert L. Freeman	*Food, Drug & Cosmetic Inspector*
Charles H. Godwin, Jr.	*Food, Drug & Cosmetic Inspector*
Pearl G. Gray	*Stenographer III*
Clyde M. Griffin	*Chemist I*
William M. Harris	*Chemist II*
Margie W. Hatcher	*Stenographer II*
Samuel H. Hinton	*Laboratory Helper*
Velva E. Hudson	*Typist III*
Jesse G. Jernigan	*Food Chemist*
Vera C. Johnson	*Chemist II*
Frances L. Liles	*Stenographer II*
Thomas W. Lucas	*Laboratory Helper*
H. D. Matheson	*Chemist II*
W. P. Matthews	*Chemist III*
Vickie E. Mooneyham	*Stenographer II*
William A. Morgan	*Laboratory Helper*
Fred P. Nooe	*Food, Drug & Cosmetic Inspector*
H. F. Pickering	*Food Chemist*
J. S. Pittard	*Chemist III*
Clyde W. Roberts	*Food, Drug & Cosmetic Inspector*
Carolyn W. Robinson	*Chemist I*
William Sylver, Jr.	*Laboratory Helper*
Robert T. Teague, Jr.	*Chemist V*
Robert N. Tulloch	*Chemist IV*
William T. Vick	*Chemist III*
James D. Watson	*Chemist I*
George R. Winstead. III	*Chemist III*

Soil Testing

Preston H. Reid	*Director of Soil Testing*
John O. Anderson	*Laboratory Helper*
Dorothy T. Beck	*Stenographer III*
Shirley S. Bowling	*Chemist I*
Martha G. Chewning	*Chemist I*
Carolyn O. Copeland	*Chemist II*
Zoel W. Daughtry	*Agronomist I*
Joseph E. Douglas	*Laboratory Helper*
Audrey H. Hayes	*Laboratory Technician II*
Carolyn C. Holt	*Stenographer II*
Yvonne L. Hudson	*Typist I*
Sandra C. Johnson	*Stenographer II*
Sarah P. Johnson	*Laboratory Technician III*
Gerald D. McCart	*Agronomist II*

Juanita U. Matthews	*Chemist I*
Julia S. Phillips	*Stenographer I*
Carl E. Schauble	*Agronomist I*
Mary R. Smith	*Chemist I*
Peggy J. Swinson	*Stenographer I*
Sue P. Williams	*Chemist I*

Crop Statistics

Raymond R. Alford, Jr.	*Office Machine Operator Supervisor GS IV*
Mary S. Allen	*Statistical Analyst I*
Thomas W. Brand	*Analyst Statistician GS*-12
Georgia T. Bynum	*Statistical Aide*
Charlie H. Cross, Jr.	*Duplicating Equipment Operator III*
Martha F. Early	*Statistical Analyst I*
Terry M. Edwards	*Duplicating Equipment Operator II*
Evelyn L. Finch	*Vari-Type Operator II*
William B. Harris	*Farm Census Supervisor*
Jewell B. Hussey	*Statistical Aide*
Ida L. King	*Statistical Aide*
Minnie H. Langley	*Vari-Type Operator II*
Florine C. Leonard	*Statistical Aide*
Carrie Mae Mann	*Statistical Aide*
Mary D. Matthews	*Statistical Aide*
Gwendolyn H. Miller	*Stenographer II*
Natalie R. Shearin	*Statistical Aide*
Olaf Wakefield	*Supervisor Analytical (Statistician) GS*-13
John W. Williams III	*Statistical Analyst II*
Harry A. White	*Analyst Statistician GS*-12

Veterinary

Thomas F. Zweigart, Jr.	*State Veterinarian*
Josephine A. Allen	*Stenographer III*
Grey P. Baker	*Laboratory Technician II*
John Dean Baker	*Veterinarian III*
Marvin A. Batchelor	*Livestock Inspector*
Gary C. Baucom	*Poultry Specialist I*
Charles R. Border	*Veterinarian III*
Zane G. Bowles	*Veterinarian II*
Julius B. Cashion	*Poultry Specialist I*
Allie W. Carter	*Livestock Inspector*
Ivey P. C. Cashwell	*Laboratory Technician II*
Jesse J. Causby	*Poultry Specialist II*
Edwin R. Church	*Poultry Specialist I*
Kenneth G. Church	*Poultry Specialist I*
James H. Clegg	*Poultry Specialist I*
William W. Clements	*Veterinarian III*
Bobby E. Cooley	*Laboratory Helper*
Alton L. Corbett	*Livestock Inspector*
Eugene C. Couch	*Poultry Specialist I*
Thomas E. Crumpler	*Livestock Inspector*
Lilly F. Daughtry	*Stenographer II*
Guy E. Dowd	*Poultry Specialist I*
Robert J. Eckroade	*Veterinarian III*
Dewey M. Edwards	*Livestock Inspector*
L. J. Fourie	*Poultry Specialist III*
James A. Frazier	*Poultry Specialist II*
George D. Fuller	*Livestock Inspector*
William B. Griffin	*Veterinarian III*
Julian E. Guyton	*Poultry Specialist I*

Ralph Hamilton	*Veterinarian III*
Oscar F. Hill	*Livestock Inspector*
George Hinton	*Clerk I*
George L. Hunnicutt	*Veterinarian III*
Geneva C. Hunt	*Stenographer II*
G. W. Ivey	*Poultry Specialist II*
Evelyn M. Jernigan	*Stenographer II*
Austin R. Johnson	*Veterinarian III*
James L. Kearney	*Laboratory Helper*
Kenneth G. Keenum	*Veterinarian III*
William W. Keever	*Livestock Inspector*
James D. Kelley	*Poultry Specialist I*
Irene K. Kilpatrick	*Laboratory Technician II*
Mary L. Kinsaul	*Laboratory Technician II*
Eunice G. Lipham	*Laboratory Technician II*
Fred D. Long	*Poultry Specialist I*
Thomas B. Love	*Poultry Specialist I*
Paul C. Marley	*Poultry Specialist I*
Oren D. Massey, Jr.	*Poultry Specialist I*
Gary M. Medlin	*Poultry Specialist I*
James R. Miller	*Veterinarian II*
Oscar L. Mooring	*Poultry Specialist I*
David A. Munro	*Veterinarian III*
Corrine K. Murray	*Laboratory Technician II*
Nadine R. Nesbit	*Laboratory Technician II*
Walter G. Pearson	*Veterinarian III*
Peter S. Penland	*Poultry Specialist I*
Herbert P. Perry	*Poultry Specialist I*
Ollie C. Pickral	*Livestock Inspector*
Clifford W. Pittman	*Veterinarian III*
Lucy D. Ponder	*Laboratory Technician III*
Hugh M. Powell	*Veterinarian III*
Othell H. Price	*Stenographer II*
Verlin E. Reese	*Poultry Specialist I*
Lola S. Reinckens	*Stenographer II*
Ned M. Ross	*Veterinarian II*
Terrell B. Ryan	*Director of Diagnostic Laboratory*
Phil R. Sandidge	*Poultry Specialist I*
George W. Simpson	*Poultry Specialist I*
Billy J. Southard	*Poultry Specialist I*
Dixie Daniel Southard	*Poultry Specialist I*
Ida C. Starling	*Laboratory Technician II*
Julian S. Starr	*Veterinarian II*
Evelyn C. Tribble	*Laboratory Technician II*
Mary G. Van Horn	*Laboratory Technician II*
Joana G. Wardell	*Laboratory Technician II*
Kenneth C. Wilkins	*Laboratory Helper*
Theron S. Williams	*Veterinarian III*
William R. Wilson, Jr.	*Veterinarian III*
John R. Woody	*Poultry Specialist I*

Research Stations

Cecil D. Thomas	*Director of Research Stations*
Elwood A. Allen	*Maintenance Mechanic I*
Edward R. Askew	*Agriculture Research Assistant III*
Emmett K. Atwood	*Agriculture Research Assistant III*
Billy N. Ayscue	*Administrative Officer I*
Christine H. Baker	*Typist II*
Wallace R. Baker, Jr.	*Farm Superintendent II*

Robert L. Batts	*Farm Worker*
Elton Bazemore	*Farm Worker*
Linwood Bazemore, Jr.	*Farm Worker*
George D. Betts	*Farm Worker*
Bobby D. Bostic	*Farm Hand*
Ralph P. Brabble	*Farm Worker*
James H. Braswell	*Farm Hand*
Percy L. Braswell	*Farm Hand*
Gene Britt	*Agriculture Research Assistant IV (Tobacco Supervisor)*
William K. Brock	*Farm Foreman II*
Theodore R. Burleson, Jr.	*Farm Foreman II*
Norman E. Callahan	*Farm Foreman II*
J. M. Carr	*Farm Suuperintendent II*
Joseph B. Cherry	*Farm Worker*
Aubrey Chesson	*Farm Hand*
Samuel J. Childs	*Agriculture Research Supervisor II*
Roger E. Collins	*Agriculture Research Supervisor II*
George E. Cowan	*Farm Worker*
Horace R. Cox	*Farm Superintendent III*
Rufus Curtis	*Livestock Man*
Winston W. Davis	*Farm Worker (Dairy)*
Wallace J. Dickens	*Farm Superintendent II*
Gene Dugger	*Farm Worker*
James Roy Edwards	*Farm Superintendent III*
Ernest W. English	*Farm Foreman II*
Roger D. Evans	*Farm Worker*
James J. Fletcher	*Farm Worker*
James W. George	*Farm Worker*
Billy J. Greene	*Farm Worker*
Thomas E. Harper	*Farm Worker*
Bernice H. Harrell	*Stenographer II*
Garfield Harris	*Farm Foreman II*
Andy L. Hawkins	*Farm Worker (Dairy)*
Billy G. Hawkins	*Agriculture Research Assistant II*
Hiram Hawkins	*Farm Hand*
Alice J. Honeycutt	*Stenographer III*
Moses Jr. Hornes	*Farm Hand*
Horace G. Hudson	*General Utility Man*
Richard O. Jones	*Farm Worker*
Susan Dew Killebrew	*Stenographer II*
James O. Kilpatrick	*Farm Worker*
Ruth O. Lane	*Typist I*
Winston Lee, Jr.	*Farm Worker*
Anne Yount Lentz	*Stenographer II*
Ted W. Luther	*Agriculture Research Supervisor II*
Charles H. Luton	*Farm Foreman II*
Charles W. Lyons	*Farm Hand*
Willie L. McCaden	*Farm Hand*
Wilson C. McCaden	*Farm Worker*
Hayes L. McClure	*Farm Foreman II*
Casper D. McLamb	*Farm Worker*
Walker W. McNeill	*Agriculture Research Supervisor II* *(Dairy Supervisor)*
Clyde Z. McSwain, Jr.	*Farm Superintendent III*
Jacob B. Matthews	*Livestock Man*
Lonnie Mosby, Jr.	*Agriculture Research Assistant I*
Lena Mae Neaves	*Stenographer I*
David L. Oliver	*Farm Hand*
Melvin L. Oliver	*Farm Worker*
Bobby J. Padgett	*Farm Worker*
James M. Peace	*Farm Hand*

George H. Powers	Farm Hand
Ben D. Rackley	Farm Worker
Charles G. Reagan	Livestock Man
Oliver Rice	Livestock Man
Leroy Rich	Farm Worker
Theodore R. Rich	Farm Worker
Melvin G. Richert	Livestock Man
Acie C. Rivenbark	Farm Hand
John D. Roten	Agriculture Research Assistant I
Claude S. Roupe	Farm Worker
John Sasser, Jr.	Farm Foreman II
George Severt	Farm Worker
Julia L. Skinner	Typist I
Homer G. Smith	Livestock Man
John W. Smith	Farm Superintendent II
Robert M. Smith	Farm Foreman II
Jean W. Spruill	Stenographer I
Thilbert A. Suggs	Agriculture Research Assistant IV
Jesse W. Sumner	Farm Superintendent II
Henry M. Tallardy	Clerk II
Dan Lafayette Taylor	Agriculture Research Assistant III
James C. Taylor	Farm Foreman II
Robert B. Teachey	Farm Worker
John H. Thomas	General Utility Man
Stanley O. Tillery	Farm Foreman II
Levy C. Todd	Farm Worker
Dana F. Tugman	Farm Superintendent II
Earl E. Vickery	Farm Worker
Beverly C. Watkins	Stenographer II
Randolph Whitley	Agriculture Rsearch Assistant III
B. L. Williams	Stenographer II
James H. Williams	Farm Hand
Floyd W. Yancey	Farm Hand

State Museum of Natural History

William L. Hamnett	Acting Director Museum Natural History
Ludie Virginia Ashe	Maid
Owen W. Dunston	Janitor-Messenger
Grace R. John	Stenographer II
Jean duVal Kane	Natural Science Curator I
Charles H. Leibrandt	Museum Preparator
William M. Palmer	Natural Science Museum Curator I
Sara Dean Prince	Clerk II
James F. Vester	Cabinetmaker
Mary M. Weathers	Stenographer I

Food Distribution

Jay P. Davis, Jr.	Marketing Specialist IV
Samuel T. Avera	Food Distribution Supervisor
Raymond M. Chadwick	Stock Clerk I
Raleigh T. Daniel	Marketing Specialist III
Gladys R. Dudley	Stenographer III
Robert B. Dunn	Food Distribution Supervisor
Robert B. Godwin	Food Distribution Supervisor
Catherine S. Holden	Typist II
Don M. Honeycutt	Stock Clerk I
James M. Hunter, Jr.	Warehouse Manager I
Barbara F. King	Stenographer II
Betty J. Lindley	Accounting Clerk I

Cecil L. Morris	*Warehouse Manager I*
Geraldine P. Pearce	*Accounting Clerk II*
Walter M. Sawyer	*Marketing Specialist II*
William C. Taylor	*Food Distribution Supervisor*

GASOLINE AND OIL INSPECTION

John I. Moore	*Superintendent of Weights & Measures & Director of Gasoline & Oil*
Carey M. Ashley	*Chemist I*
Milton Barefoot	*Gasoline & Oil Inspector*
Malvern L. Boyette	*Gasoline & Oil Inspector*
Laura H. Bryant	*Stenographer II*
Robert L. Carter	*Chemist I*
Glenn R. Cates	*Chemist I*
Robert F. Comer	*Liquid Gas Inspector*
Jack C. Connolly, II	*Chemist I*
Milton C. Converse	*Liquid Gas Engineer*
Joseph Denton	*Gasoline & Oil Inspector*
Paul H. Etheridge	*Chemist I*
Alicegrae F. Ferrell	*Accounting Clerk III*
Thomas P. Gore	*Chemist I*
Roy B. Hallman	*Gasoline & Oil Inspector*
Elliott Harrison	*Laboratory Helper*
Hugh F. Hayes	*Chemist II*
Horace E. Herman	*Calibrator*
Judith A. Hicks	*Stenographer I*
Connie B. Hines, Sr.	*Calibrator*
Jewel E. Holden	*Chemist I*
Ira G. Holloway	*Gasoline & Oil Inspector*
Arthur B. Hutchins	*Gasoline & Oil Inspector*
Edwin H. Hutchins	*Chemist II*
Herman L. Jones	*Gasoline & Oil Inspector*
Harold U. Kinder	*Gasoline & Oil Inspector*
Curtis Ray Lindsay	*Gasoline & Oil Inspector*
T. Paul Lopp	*Gasoline & Oil Inspector*
Robert H. McArver	*Gasoline & Oil Inspector*
John L. McLaughlin	*Chemist I*
Robert E. Mullen	*Chemist I*
W. T. O'Briant	*Gasoline & Oil Inspector*
Thomas F. Oder	*Gasoline & Oil Inspector*
Dean E. Padgett	*Calibrator*
Douglas M. Pait	*Gasoline & Oil Inspector*
Marie M. Phelps	*Chemist I*
Edsel H. Privette	*Calibrator*
Parley B. Rasmussen, Jr.	*Chemist II*
Clyde W. Reeves	*Gasoline & Oil Inspector*
James R. Rivers	*Gasoline & Oil Inspector*
Joseph C. Roebuck	*Gasoline & Oil Inspector*
Frank L. Rouse	*Calibrator*
Milton H. Rowe, Sr.	*Gasoline & Oil Inspector*
David W. Sanders	*Gasoline & Oil Inspector*
Adam D. Scott	*Chemist II*
H. L. Shankle	*Chemist IV*
J. T. Shaw	*Chemist II*
Harry W. Shelton	*Chemist I*
Ray D. Sigmon	*Gasoline & Oil Inspector*
Koy S. Smith	*Gasoline & Oil Inspector*
David B. Spivey	*Calibrator*
Ralph G. Thornburg	*Chemist II*
James Edgar Turpin	*Gasoline & Oil Inspector*
James P. Whitfield, Sr.	*Gasoline & Oil Inspector*

Worth E. Williams	*Gasoline & Oil Inspector*
Howard F. Wilson	*Gasoline & Oil Inspector*
Gorden S. Young	*Calibrator*

State Warehouse Fund

William G. Parham, Jr.	*Warehouse System Superintendent*
Lindbergh L. Brown	*Warehouse Examiner*
Judy A. Stacy	*Stenographer II*
Martha E. Swindell	*Stenographer II*

Cooperative Inspection Service

James M. Clark	*Marketing Specialist II*
Guy A. Cutler	*Marketing Specialist II*
Betty J. Narron	*Stenographer I*
Helen J. Parrish	*Accounting Clerk II*
Eldridge C. Price	*Marketing Specialist III*
Samuel G. Rand	*Marketing Specialist II*
Daniel E. Wester	*Marketing Specialist II*

Structural Pest Control

Rudolph E. Howell	*Entomologist III*
Faye L. Godwin	*Stenographer II*
Norman R. Howell	*Pest Control Inspector*

Credit Union Supervision

W. V. Didawick	*Credit Union Administrator*
Shirley T. Coats	*Stenographer II*
Edgar L. Grier, Jr.	*Fiscal Examiner II*
Joseph M. Jones	*Fiscal Examiner III*
Rodney C. Orndorff	*Fiscal Examiner II*
Howard Leroy Pijahn	*Fiscal Examiner III*
Edwin C. Swartz	*Fiscal Examiner II*
Richard B. Telfair, Jr.	*Fiscal Examiner II*

Operation of Farmers Market

Charles G. Murray	*Manager*
Patricia G. Smith	*Stenographer III*

BIENNIAL REPORT

OF THE

NORTH CAROLINA DEPARTMENT OF AGRICULTURE

By JAMES A. GRAHAM

Commissioner of Agriculture

If the outstanding characteristic of the work of the Department of Agriculture during this biennium had to be expressed in one brief phrase, it would be three words: "Accent on Marketing."

The emphasis on agricultural marketing has permeated nearly every one of the Department's 18 divisions for several reasons. First of all, North Carolina farmers have in recent years learned how to produce (more abundantly) better than they have learned how to market their production. Also, production and marketing become more closely related with each passing year. This means that our control programs dealing with such materials of production as feeds, fertilizers, pesticides, even our soil testing work, must be aimed at production practices which not only increase productivity but also result in farm commodities that are in demand, meet the demand competitively, and are wholesome and safe for human consumption. Efficiency of production and quality of product are today just as essential to the farmer-producer as they are to the manufacturer-producer.

The Department's Division of Markets is, of course, directly and primarily concerned with agricultural marketing. However, even some of the work of this division must begin with what the farmer produces and how it is produced and then carry on through to its handling or processing. The work of that division is covered in the chapter beginning on page 97.

Some examples of the programs of other divisions which relate directly or indirectly to agricultural marketing have been selected somewhat at random for mention here. They have not been chosen because they are necessarily the most important marketing-related work of that division, nor are they anywhere near wholly inclusive for the divisions mentioned or for the department as a whole. They are listed simply to give an indication of the variety of programs which have a bearing on marketing. The examples, which represent new or expanded activi-

Members of the Northwest Tour find much to interest them at the Brushy Mountain Apple Cooperative's, which is equipped with the most modern cleaning, grading and packaging equipmentt.

ties for this biennium, are:

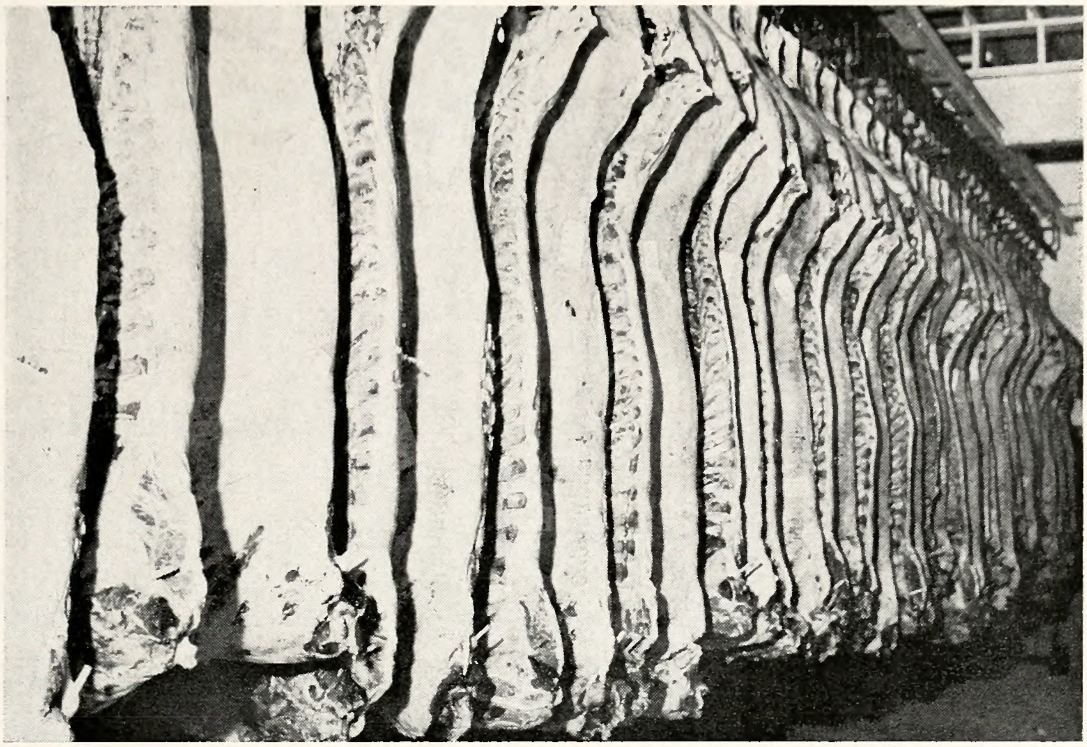
1. A concentrated shift of seed inspectors into the peanut area during the short period of time when the peanuts are being shelled, in order to facilitate inspection and movement of the seeds into trade for the benefit of both producers and buyer of the seeds.
2. Sharply increased inspection of meat slaughtered and processed in the state and a growing number of plants requiring this inspection.
3. Cooperation in an intensive educational program to acquaint the farmers with the importance of soil testing and how to use the results from such tests.
4. Analyses of feeds, silages and grains and other forages to enable livestock producers to determine the feed value of their own home grown feed products.
5. A thorough study to determine the needs for analytical work not now provided by any State agencies which are essential for competitive production and/or protection of human health.
6. A school of instruction for personnel of our Weights and Measures Division to acquaint them with new weighing and

measuring equipment which has been developed to increase precision, reliability and speed in the weighing and packaging of various products. These devices are great in number and are of mechanical, electrical or electronic systems.

In addition to all of the continuing and regular work of the Department relating to marketing, we have inaugurated during this biennium some very special programs designed to promote and expand the use of North Carolina produced and processed agricultural commodities.

In the spring of 1965 we began a series of tours with a twofold objective. One was to take division heads and key personnel of the Department of Agriculture to the people in the various areas of the state; and at the same time to take food buyers into

Buyers on the tour of Northwestern North Carolina were delighted with this beautiful Ashe County Christmas tree farm.



This rack of fresh beef quarters was viewed at the Azalea Meat Company's New Bern plant during the recent Northeastern tour.

Commissioner Graham, Dr. E. W. Stapp, state supervisor of meat inspection, and Fred Pepoon, head of the NCDA poultry and egg section, tour the Holly Farms poultry processing plant.

these various areas to show them what is available right here in North Carolina.

The first tour, in June of 1965, covered a large portion of the Southeastern area. In September of that same year the tour went into the Northwest area. In June of 1966, the series was continued with a tour of the Northeast area. The results of these tours have been most gratifying. Food buyers, from large chains as well as independents were amazed to find such a variety of products close at hand which they had not previously known to be available to them.

People in the areas visited showed that they were pleased and inspired by this evidence of the department's interest in their progress and problems at the community or area level. And department personnel were pleased and inspired by seeing first-hand evidence of growth and progress in which they had played a part in their various capacities.

The department is deeply indebted to Southern Railway for making available, at no cost, its comfortable Agri-business bus, as well as providing the very able services of its North Carolina Agricultural Agent, Frank Harris, to go along on these tours. Mr. Harris' knowledge and enthusiasm makes him a veritable embodiment of the interest and enthusiasm of the Railway for the agricultural potential of the South.

Later we plan to make similar tours of the Southwest and the Piedmont, thus crisscrossing the state with this exciting program.

In 1964, Governor Terry Sanford, appointed a committee known informally as the Retail Promotions Award Committee, for the purpose of establishing criteria for annual awards to the independent retail food dealer and the chain store food dealer for the most effective promotion of North Carolina grown and processed food products. The Commissioner of Agriculture served as chairman of this committee and personnel of the Department have participated along with those from other agencies in launching and carrying on this program. In November, 1964, the first awards were presented by the Governor at a banquet sponsored by the North Carolina Merchants Association.

Governor Dan Moore has lent his support to this program and for the past two years the committee has functioned under the co-chairmanship of Wayne Corpening, Governor's coordinator for economic development, and the Commissioner of Agriculture.

This program has been received with much enthusiasm by the retail food trade and there is a keen spirit of competition which, of course, does much to expand the sale of North Carolina products and to point out their excellence.

Another program of the Department of Agriculture has been the continual promotion of North Carolina products, through articles, speeches, radio and television interviews. In the Department's semi-monthly paper, *Agricultural Review*, we carry on the front page of every issue in large letters the slogan "Help Build North Carolina by Using North Carolina Products." This same slogan appears on every piece of mail going out of the Department.

Also during the past year we have worked intensivevly on plans which will culminate in a food festival at the 1966 State Fair. Here will be exhibited a big variety of North Carolina's agricultural versatility. This, we believe, will serve to acquaint both buyers and consumers with the fact that North Carolina has the soils and climate to produce an almost infinite variety of foods, and to inspire farmers with the profit potential in adding some of these lines of production to their own operatons.

ACTIVITIES OF THE ADMINISTRATIVE OFFICES

North Carolina's progress places great demands on all its State officials to participate in coordinated activities at both the state and federal levels. During the past biennium the North Carolina Commissioner of Agriculture was a member of the U. S. Department of Agriculture Advisory Committee on Cooperative Work under the Agricultural Marketing Act with the State Department of Agriculture.

In the state, the Commissioner is a member of the Board of Directors of the Agricultural Foundation of North Carolina State College, a member of the Cotton Promotion Committee, the North Carolina Board of Farm Organizations and Agencies, and member of the North Carolina Committee on Migrant Labor. He is also a member of the Governor's Council on Occupational Health, the Governor's Commission on Educational Television, the Governor's Resource Planning Committee, the North Carolina Council on Foods and Nutrition, the North Carolina Veterinary School Selection Committee, the Board of Directors of North Carolina Rural Rehabilitation Corporation, the Executive Committee of the North Carolina Council of Community and Area Development and the Chairman of the Army Advisory Committee.

By legislation the Commissioner of Agriculture is Chairman of the State Board of Agriculture, the State Board of Gasoline and Oil Inspection and the Board of Directors of the North Carolina Agricultural Hall of Fame; a member of the North Carolina Milk Commission, the Crop Seed Improvement Board and the Atomic Energy Advisory Committee.

Under provisions of the Structural Pest Control Law he is also responsible for employing inspectors, and supervising the work they perform according to regulations promulgated by the Structural Pest Control Commission. The law also provides for the appointment of a member of the department's Entomology Division staff and another member representing the department-at-large on that Commission. Since its organization in 1955, Assistant Commissioner of Agriculture John L. Reitzel has been the appointee representing the department-at-large, and since July, 1959, he has been Secretary to the Commission. J. A. Harris served as the Entomology Division's representative until he retired in January, 1966. Governor Moore appointed George D. Jones head of the Entomology Division, to succeed Harris on the Commission.

The Assistant Commissioner of Agriculture also represents the Department on the Animal Nutrition Committee at North Carolina State.

State law provides for the licensing and regulation of rendering plants operating in this state. Unlike most laws administered by this department, authority to adopt regulations is not placed with the Board of Agriculture, but with the Commissioner of Agriculture acting with the advice of a rendering plant inspection committee. Composition of the committee is specified by law to be "one member who shall be designated by the Commissioner of Agriculture and who shall be an employee of the Department of Agriculture, one member who shall be designated by the State Health Director and who shall be an employee of the State Board of Health, and one member who shall be designated by the Director of the North Carolina Division of the Southeastern Renderers Association." Dr. H. J. Rollins, State Veterinarian as the Department of Agriculture member designated to serve on this committee from its organization in 1953 until his retirement on March 1, 1966. His successor, Dr. T. F. Zweigart, also replaces him on this committee.

There are now 16 rendering plants licensed to operate in the state. All of these are inspected by members of the committee at least once, some several times, each year to insure continued compliance with the law and regulations.

A law enacted in 1949 providing for supervision of all agricultural fairs in the state is administered directly by the Commissioner of Agriculture. There are no funds appropriated for its enforcement and the inspection work is "farmed out" among qualified department personnel. This arrangement has worked out very well, so far, and the law has done much to eliminate abuse of the name "fair" by undesirable fly-by-night carnivals and tent shows. Under the law, only bona fide agricultural and industrial expositions may use the name "fair" and those classified as commercial (charging admission or operating traveling shows or games) must be licensed by the Commissioner of Agriculture. To obtain such license, the fairs must meet minimum standards adopted by the Board of Agriculture. There were 68 fairs licensed in the state in 1964 and 64 in 1965. On inspection, four of the 1964 fairs were found not meeting minimum requirements and one was deficient in 1965.

In the Spring of 1964, the interior of a shrine for the Agricultural Hall of Fame was completed. Dedication of the shrine was deferred because of the illness of the late Commissioner L. Y. Baentine.

As soon as possible after I began my administration, I called a meeting of the Board of Directors of the Hall of Fame, and it was decided by the Board to consider more nominations for the Hall of Fame, and to draw up some additional guidelines for the selection of members, type of pictures and frames to be used, and similar matters, before holding dedication ceremonies. A major change in the requirements for eligibility of members was to the effect that none be elected that have been deceased less than one year. Previous regulations had merly stipulated that no living person would be eligible for consideration.

After a series of meetings, the following persons were elected to the Hall of Fame:

Dr. Clarence Poe (1881-1964) noted agricultural leader, editor and author.

Dr. Jane S. McKimmon (1867-1957), who introduced and established home demonstration work in North Carolina. She is the first woman to be awarded this honor.

L. Y. Ballentine (1899-1964), who was for 15 years commissioner of agriculture for North Carolina, after having served for eight years on the Wake County Board of Commissioners, four terms as State Senator and a four-year term as Lieutenant Governor.

Dr. Hugh H. Bennett (1881-1960), internationally known as "father of soil conservation." A prime mover in establishing the Soil Conservation Service, he became its first chief in 1935, and served in that post until October, 1951, when he became special assistant to the Secretary of Agriculture. He held the latter position until his retirement in 1952.

W. Kerr Scott (1896-1958), who served agriculture as county agent, Master of the State Grange, Commissioner of Agriculture for North Carolina for 12 years, Governor of North Carolina for four years, and had been serving in the United States Senate for four years at the time of his death.

R. Flake Shaw (1889-1957), who served for 12 years on Guilford County Board of Commissioners, seven years on the state committee under the Agricultural Adjustment program, and 17 years as executive vice president of the North Carolina Farm Bureau Federation.

The 1953 law authorizing the Agricultural Hall of Fame did not appropriate any funds for creating the shrine or for operating expenses. Several years ago the Council of State made money available from the contingency and emergency fund to remodel and furnish a room in the Agriculture Building to serve as a shrine. From then until the summer of 1966 there was no money for suitably decorating the exterior of the shrine, to purchase a citation book and uniform picture frames, or similar expenses. An additional $500 for these purposes has now been granted by the Council of State, and the necessary work is expected to be completed in time for dedication of the shrine in the late Fall of 1966 or early Winter of 1967.

PERSONNEL

Although long acquainted with many of the personnel in the Department of Agriculture, it was nevertheless a source of amazement to me to find, on becoming Commissioner, the high degree of excellence that generally prevailed throughout the department. Among employees in all types of jobs I found ability, dedication and devotion to duty that is certainly unusual in so large a group with such a diversity of responsibilities. Without this fine spirit among employees, it would be impossible for the department effectively to carry on its increasing responsibilities. I am grateful for the cooperation I received on coming to office and for the continuation of this fine spirit.

My first official act on becoming Commissioner of Agriculture on June 30, 1964, was to re-appoint John L. Reitzel as Assistant Commissioner of Agriculture. His wisdom, experience, advice and counsel have been, and continue to be, invaluable to me, to the department and to the State of North Carolina.

At the beginning of the biennium, a number of division heads and several other key personnel had reached retirement age and desired to retire. They had given long and effective service in the department but, unfortunately, space does not permit me to list all the important contributions of each. Needless to say, we were sorry to lose so much talent and experience but I am grateful to many of them for staying on at my request until I could have time to closely review the work of the divisions and survey the qualifications needed for replacements.

It was also a great source of gratification to me to find that with one exception I could fill the positions of division heads from the ranks of experienced people within the department. The on-the-job training of these replacements and their experience within the department has been an invaluable asset in transferring the administrative reins in these key positions.

On January 1, 1965, C. D. Baucom who had been head of the Department‘s Weights and Measures Division for 38 years, retired. Since 1949 he had also directed the Gasoline and Oil Division. These posts have been filled by John I. Moore, who had been with the division for 25 years and assistant to Mr. Baucom for 17 years. He is ably carrying on the work of this Division, which has been for many years regarded nationally as one of outstanding excellence.

Marion Kinlaw, who had been with the department since 1952 as a Weights and Measures inspector, was promoted to the post of assistant formerly held by Mr. Moore.

C. H. Brannon retired as head of the Entomology Division on July 1, 1965. J. A. Harris who had been senior entomologist for 40 years, also elected to retire as of January 1, 1966. The loss of this combined experience was unfortunate, but we were most fortunate in obtaining the services of George D. Jones who came to the Department from the Entomology Department of the North Carolina Agricultural Extension Service. James F. Greene, entomologist with the division since 1949, was promoted to Harris’ former post.

A. B. Fairley, who had headed the Warehouse Division since 1928, retired on August 1, 1965. William G. Parham, who had been a grain specialist in the Department's Division of Markets for four years was appointed to this post and is ably carrying on this important work.

On January 1, 1966, Harry T. Davis, Director of the State Museum, retired after serving 45 years on the museum staff, and 28 years as its director. William L. Hamnett, who had worked under Mr. Davis since 1963, has been appointed director to fill this post. We are fortunate that Mr. Davis has agreed to stay on as director emeritus in a consulting capacity.

State Veterinarian, Dr. H. J. Rollins, who labored night and day in the interest of livestock disease control and eradication during his 17 years with the Department, retired on March 1, 1966. Dr. T. F. Zweigart who had headed the Veterinary Division's Diagnostic Laboratories since 1959, was appointed to succeed him. Dr. T. B. Ryan, who had been Dr. Zweigart's assistant for two years, was made laboratory supervisor.

The post of State Fair Manager was vacant when I became Commissioner. The Department of Agriculture and the people of North Carolina are deeply indebted to Dr. R. W. Shoffner, for agreeing to put on the 1964 Fair, which was then so close at hand, and to North Carolina State University for lending him to us from his post as Director of Foundations. Dr. Shoffner had served as Assistant Manager under the late Dr. J. S. Dorton for 24 years. Nevertheless, it was an extremely difficult task at such a late date to take hold of the multitude of details which the Fair entails. Dr. Shoffner did a magnificent job and under the most adverse circumstances.

Again, it was a source of gratitude to find within the ranks of the Department of Agriculture personnel an able person to take over the permanent job of Fair Manager. Arthur K. Pitzer, who had for eight years served as a livestock marketing specialist with the Department and as head of the State Fair livestock department, was appointed to this position.

During this biennium a new division was created. The Commodity Distribution Section of the Division of Markets was made a full-fledged Division known as the Food Distribution Division. J. P. Davis, Jr., who had been head of the section for 20 years was made head of this new Division. The magnitude and volume of work involved in the distribution of federally donated foods for schools and charitable institutions made this administrative change advisable.

In January, 1966, the department lost by retirement W. P. Hedrick, who had so ably served as tobacco marketing specialist for nearly 30 years. This position was filled by his former assistant, John H. Cyrus, who had worked under Mr. Hedrick for 17 years. Mr. Cyrus' former position has been filled by Roger L. Mozingo, a native of Greene County, a graduate of N. C. State University, and well qualified by experience and training for the position of tobacco marketing specialist.

On July 1, 1965, John T. Richardson, who had been the County Farm Census supervisor for 15 years also retired. His position was filled by William B. Harris, who had been an agricultural statistician with the Department for two years.

I was most grateful to Miss Carolyn Harmon for agreeing to stay on in her post as administrative secretary in my office. She was invaluable in assisting me in launching my administration. However, in 1965, she elected to return to teaching and joined the faculty at Gaston College. I am most fortunate in having the experienced services of Mrs. Virginia Johnson as administrative secretary. Mrs. Johnson had served as my secretary when I was manager of the Farmers Market and came to this office after serving under the new manager for a year.

On becoming Commissioner, I appointed Charles G. Murray, who had been a marketing specialist in this department since 1957, to succeed me as manager of the State Farmers Market, where he is doing an outstanding job. The market is showing steady gains in growers participation and is absolutely self sustaining.

In June, 1966, we lost the services of William E. Gulley, who resigned to accept a post with the American Forest Products Industries, Inc. Mr. Gulley had served as Assistant Director of the Publications Division and had made important contributions to the work of the department. His position had not been filled by the end of the biennium, but as this report is written we have obtained the services of Garland R. Whitaker, who comes to us from the *Greenville Reflector*, where he had worked as reporter and farm writer.

In May, 1965, I inaugurated a monthly employee recognition award. A person to be designated Employee of The Month is chosen by a committee and their citation presented at the monthly staff meetings. This recognition is to be given to employees in all salary brackets and all levels of responsibility.

These awards do more than simpy give individual recognition.

They serve to point up the fact that every employee in the department has an important job to do and that the effectiveness of each individual in his or her particular job is vital to an effective team effort. The citations, themselves, help to keep employees of all divisions abreast of the great variety of programs and responsibilities carried on by the department.

Needless to say, the monthly choice is not easy to make from such a large number of employees of such general excellence. However, the committee is helped in making its selection by focusing on outstanding work or special accomplishments during the preceding month. This recognition has been well received by employees throughout the department.

Recipients of the award during the biennium were:

1965

May—Francis Patterson, director of the Dairy Division;

June—Hugh B. Martin, head of fruit and vegetable section, Division of Markets;

July—Jay P. Davis, head of commodity distribution section, Division of Markets;

August—J. A. Harris, senior entomologist, Entomology Division;

September—Josephine Allen, secretary to State Veterinarian;

October—E. H. Cooper, tax auditor, inspection service;

November—George Spain, director of Seed Testing Division;

December—Dr. Preston Reid, director of Soil Testing Division;

1966

January—Dr. H. J. Rollins, State Veterinarian;

February—Harry T. Davis, director of State Museum;

March—Robert Harris, stock clerk;

April—Robert T. Teague, Jr., assistant state chemist;

May—Charles G. Murray, manager of State Farmers Market;

June—Mrs. M. Pauline DeCosta, Director of Publications Division;

July—Charles B. Elks, head of engineering section, Division of Markets.

STATE BOARD OF AGRICULTURE

The Board of Agriculture is the regulatory and policy making body for the Department of Agriculture. Its membership currently, and by long tradition, represents the finest kind of intelligent agricultural leadership and dedicated public servants.

Commissioner Graham, Board Members J. H. Poole, Charles Phillips, David Townsend, Jr., and J. Atwell Alexander pause at the Laurel Springs Research Station during their recent tour of the western stations.

The Board consists of 10 members appointed by the Governor for six-year terms of office. However, the law provides for staggered terms, so that not all expire at one time, and requires that the members shall be active farmers representing the major sections and types of agriculture in the state.

The multiplying problems of progress place commensurately heavier burdens upon this Board. Regulatory provisions on which they must pass increase in complexity and in number. The Board members are all busy farmers and businessmen, active in many civic affairs at community and state level. Except for a nominal pay for days actually in session or traveling on business for the Board, their only compensation is the knowledge that they are serving their state and their nation. Yet they give without stint of their time and talents to the business of the Board not only in formal sessions but in travel and other activities to further the interest of the Department and North Carolina Agriculture.

During the summer of 1966, visits to all 16 of the outlying Research Stations were scheduled for Board members. Despite the fact that these tours had necessarily to be scheduled at the busiest time of the year for these very busy men, seven of the 10 members participated in them.

These biennial visits to the stations serve the dual purpose of acquainting the Board members with the budget needs of the stations and keeping them in touch with the agricultural developments in all parts of the state.

Beginning on the following page is a summary of matters brought before the Board in session totaling 15 days during this biennium. This gives some idea of the duties and responsibility of this truly "working" board.

HIGHLIGHTS OF BOARD MEETINGS

1964-1966 Biennium

October 12, 1964
Raleigh, Fairgrounds

J. Atwell Alexander, Claude T. Hall, Charles F. Phillips, Thomas O. Gilmore, Thomas G. Joyner, and J. H. Poole.

Warehouse Loans Approved

Approved loans from the State Warehouse Fund of $10,000 to Farmers Bonded Warehouse of Wagram; $16,000 to the Shelby Bonded Warehouse of Shelby and $32,000 to the Long Cotton Warehouse of Weldon.

Assistant Commissioner Reappointed

Commissioner Graham informed the Board that his first official decision as Commissioner was to request that Mr. John L. Reitzel stay as Assistant Commissioner.

December 7, 1964
Raleigh

J. Atwell Alexander, Thomas O. Gilmore, Hoyle C. Griffin, Thomas G. Joyner, George P. Kittrell, Charles F. Phillips, J. H. Poole, and A. B. Slagle.

Approve Appointment of Weights and Measures Director

Approved the appointment of John I. Moore as director of the Weights and Measures Division, succeeding C. D. Baucom, who retired.

Removal of Fairgrounds Dwellings

Approved a recommendation to the Department of Administration to remove the unusuable dwellings at the N. C. State Fairgrounds.

Adopted Regulations Defining Complete Dairy Feed

Adopted standards for concentrated commercial feedings stuffs labeled as complete dairy feed, following a public hearing. Also adopted standard weights for bags and packages of feeding stuffs.

Endorse Pneumatic Peanut Sampler

Went on record as endorsing a one-type system of sampling bulk peanuts and endorsed the pneumatic bulk sampler.

Approve Warehouse Loans

Approved loans from the State Warehouse Fund of $40,000 to Lincoln Bonded Warehouse and $33,000 to D. D. McCall and Ruth B. Council of St. Pauls.

Discuss Oxford Land Sale

Heard request from Oxford Industrial Development group to buy land from Oxford Research Station. Voted to request the Division of Property Control to appraise land requested.

Discuss Right-of-Way, Mountain Research Station

Discussed, but postponed action, on a request from residents adjacent to the Mountain Research Station for an easement on right-of-way for an access road to their property.

January 18, 1965
Raleigh

Thomas O. Gilmore, Claude T. Hall, George P. Kittrell, J. H. Poole, Hoyle C. Griffin, Thomas G. Joyner, Charles F. Phillips, and David Townsend, Jr.

David Townsend, Jr. Appointed to Board

Commissioner Graham introduced David Townsend, Jr. who has been appointed to succeed his father on the Board. Mr. Townsend, Sr. retired because of ill health.

Egg Law Committee Appointments Approved

The Board approved the reappointment of the following persons to the Egg Law Advisory Committee: One year, Reid Roberts of Person and Carter Bridgers of Cleveland; two years, Maurice Pickler of Stanly and V. A. Aschcraft of Mecklenburg; three years, J. Atwell Alexander of Alexander, John Hanly of Durham. New appointees approved were: one year, Reginald Barton of Cumberland, and George King of Pitt; two years, Malcolm Lowder of Stanly and Ben Massey of Wake; three years, M. S. Emmant of New Hanover, Tom Johnson of Claveland and James G. Simpson of Buncombe.

Approve List of Fertilizer-Pesticide Mixtures

Following a public hearing, approved the list of fertilizer-pesticide mixtures permitted to be sold in 1965.

Adopt Seed Tags Policy Statement

Approved a N. C. Department of Agriculture policy statement which declared as misleading the practice of selling second-generation seed from outside North Carolina with blue Certified Seed Tags.

Made Permanent Regulations Permitting Coffee Creamers and Pancake Mix to be Processed in Dairy Plants

Adopted measures to continue the regulations permitting the bottling of coffee creamers and pancake and waffle mixes in Grade A dairies on a permanent basis.

Pitzer Named New State Fair Manager

Approved the appointment of Arthur K. Pitzer as manager of the N. C. State Fair, succeeding the late Dr. J. S. Dorton.

Grant Rights-of-Way Across Edge of Upper Mountain Research Station

Voted unanimously to grant a right-of-way across the edge of the Upper Mountain Research Station at Laurel Springs to Emerson E. Mashburn and Marion Jenkins.

March 18, 1965
Raleigh

J. Atwell Alexander, Thomas O. Gilmore, Hoyle C. Griffin, Claude T. Hall, Thomas G. Joyner, George P. Kittrell, Charles F. Phillips, J. H. Poole, and David Townsend, Jr.

Peanut Assessment Vote Results Accepted

Voted to accept the official results of the N. C. Peanut Growers Association referendum, which carried in favor of the assessment.

Additional Request For Oxford Land

Received a request from Granville Industrial Developers Inc. to purchase 25 to 35 acres of land on the Oxford Research Station. In December the group had asked to purchase 10.62 acres and in view of the additional request the Board appointed a committee to study the proposed sale.

Proposed Egg Law Endorsed

Adopted a resolution endorsing the proposed North Carolina Egg Law before the N. C. General Assembly.

Endorse New Fair Buildings

Endorsed a budget request of $1,750,000 to erect new buildings on the N. C. State Fairgrounds.

Endorsed Amendments to N. C. Feed Law

Approved an amendment to the N. C. Feed Law, reducing the inspection fee from 25 cents to 12 cents per ton.

June 9-10, 1965
Raleigh

J. Atwell Alexander, Hoyle C. Griffin, Thomas G. Joyner, J. H. Poole, Thomas O. Gilmore, Claude T. Hall, Charles F. Phillips, A. B. Slagle, and David Townsend, Jr.

Adopt Fertilizer Grade List

Went on record as endorsing the fertilizer grade list on a ratio basis with minimum grades in each ratio and adopted the ratios and minimum grades for the year beginning July 1, 1965.

Eliminate "Chow" From Feed Regulations

Amended the feed regulations to eliminate the registered brand name "chow".

Approved Land Appraisal at Oxford

Approved the Division of Property Control's appraisal of land at the Oxford Research Station being sought by Granville Industrial Developers, Inc. and agreed to allow the appraisal to stand for a period of 18 months.

Appoint Member to Negotiate for Land Requested by Power Company at Piedmont Research Station

Appointed Board Member Charles F. Phillips to negotiate with the Duke Power Company for land for an electric substation on the Piedmont Research Station near Salisbury.

Allow Bottling of Water in Dairy Plants

Amended the Dairy Law to allow the bottling of water in Grade A dairy plants.

Study Fruit Punch, Fruit Drinks

Voted to allow the continuance of bottling fruit punch and fruit drinks in Grade A dairies while definitions and standards are studied and drawn up.

Decrease Maximum Size of Bakery Roll

Adopted amendments to the regulations reducing the maximum size of bakery rolls from a half pound to six ounces.

August 9, 1965
Raleigh

J. Atwell Alexander, Claude T. Hall, J. H. Poole, A. B. Slagle, Thomas O. Gilmore, Charles F. Phillips, and David Townsend, Jr.

Approve Appointments of Heads of Entomology and Warehouse Divisions

Approved the appointment of George D. Jones as director of the Entmology Division and William G. Parham as superintendent of the Warehouse Division, succeeding C. H. Brannon and A. B. Fairley, respectively.

Approve Cotton Referendum Request

Approved a request from the N. C. Cotton Producers Association to hold a referendum in 1965.

Lower Percentage of Salt and Minerals in Feeds

Adopted an amendment to the Rules and Regulations lowering the maximum percentage of minerals and salts that may be added to livestock feed.

Approve Warehouse Loans

Approved a loan of $8,000 from the State Warehouse Fund to W. J. Long, Jr. Warehouse of Weldon.

October 11, 1965
Raleigh, Fairgrounds

J. Atwell Alexander, Claude T. Hall, J. H. Poole, A. B. Slagle, Thomas O. Gilmore, Charles F. Phillips, Henry Gray Shelton, and David Townsend, Jr.

New Members Welcomed

Commissioner Graham welcomed Henry Gray Shelton of Speed, recently appointed to a six-year term on the Board of Agriculture, and George P. Kittrell and Charles F. Phillips reappointed to new terms.

Execution of Bond with Federal Government

Adopted a resolution authorizing the execution of a bond with the United States of America through the U. S. Department of Agriculture as required by the U. S. Warehouse Act.

Opening Ceremonies 1965 State Fair

Participated in the opening seremonies of the 1965 N. C. State Fair.

December 6-7, 1965
Raleigh

J. Atwell Alexander, Thomas G. Joyner, Charles F. Phillips, A. B. Slagle, Henry Gray Shelton, Thomas O. Gilmore, Claude T. Hall, J. H. Poole, and David Townsend, Jr.

Fertilizer-Pesticide Mixture List Approved

Approved the list of fertilizer-pesticide mixtures permitted to be sold in 1966.

Attend Unveiling of Portrait Memorial to Commissioner L. Y. Ballentine

Board Members joined the Department staff for ceremonies unveiling the portrait of the late Commissioner L. Y. Ballentine, presented by the Department as a memorial to Mr. Ballentine.

Foxtail Added To Noxious Weeds List

Amended seed regulations by adding Giant Foxtail to the list of noxious weeds prohibited and restricted in North Carolina seed.

Granville Developers Buy Land From Oxford Research Station

Received a letter from J. P. Harris, Jr. of Oxford committing the Granville Industrial Developers Inc. to purchase several tracts of land on the Oxfod Research Station for $16,750.

Approve Long-Range Planning for State Fair

Authorized the Commissioner to initiate negotiations to retain a long-range planner for the N. C. State Fair.

Authorize Egg Assessment Referendum

Authorized the N. C. Egg Marketing Association to handle the referendum assessment program for the N. C. Poultry Council.

Regulations Under New Egg Law

Adopted new rules and regulations for the N. C. Egg Law, amended by the 1965 General Assembly, for a period of one year, at which time they will be reviewed.

Acting Director For Museum

Approved the appointment of William L. Hamnett as acting director of the N. C. State Museum of Natural Science, replacing the retiring Harry T. Davis.

January 24-25, 1966
Raleigh

J. Atwell Alexander, Richard N. Barber, Jr., Thomas O. Gilmore, J. H. Poole, David Townsend, Jr., Claude T. Hall, George P. Kittrell, Charles F. Phillips, Henry Gray Shelton.

Richard N. Barber Fills Unexpired Term on Board

Richard N. Barber, Jr. of Waynesville was sworn in as a new Board Member, filling the unexpired term of A. B. Slagle who resigned.

Milk Ring Test Made Official

Adopted a resolution making the brucellosis ring test of milk the official test for Bang's Disease in North Carolina.

Deny Request For Milk Marketing Test

Denied a request from Sealtest Foods for permission to conduct a marketing test of whole milk with one percent non-fat solids added.

Approve Non-Dairy Toppings

Adopted a regulation allowing non-dairy vegetable toppings to be processed in Grade A dairies in North Carolina.

Approve Referendums On "Nickels For Know-How" Cattle and Pork Assessments

Voted to approve a request for a "Nickels For Know-How" referendum to be conducted jointly by the Farm Bureau, the State Grange and the N. C. Agricultural Foundations Inc. Also approved a referendum for the N. C. Cattlemens Association and the N. C. Pork Producers Association.

New Veterinary Division Director Approved

Approved the appointment of Dr. T. F. Zweigart as State Veterinarian, succeeding Dr. H. J. Rollins who retired.

Establish Food Distribution Division, Approve Division Head

Voted unanimously to establish the Food Distribution Division, under the direction of J. P. Davis, to direct School Lunchroom and Commodity disposal programs in North Carolina.

Approve Budget Request

Following a review of budget requests from the various divisions of the department, the Board voted unanimously to approve the department's budget request for the 1967-69 Biennium.

Urge Continued USDA Participation in Pest Control Programs

After receiving information that President Johnson's new budget contain no appropriations for programs vital to North Carolina, the Board drafted a letter to Agricultural Research Services, USDA, urging that the Imported Fire Ant, Soybean Cyst Nematode and Sweet Potato Weevil programs not be dropped.

February 22, 1966
Raleigh

J. Atwell Alexander, Thomas G. Joyner, Charles F. Phillips, Henry Gray Shelton, George P. Kittrell, J. H. Poole, and David Townsend, Jr

Approve Egg Association Change

Approved the changing of the assessment proposed by the North Carolina Egg Marketing Association from one cent per hen sold for slaughter to two cents per case of table eggs sold to packers.

Approve Peach Growers Vote

Approved a request by the N. C. Peach Growers Association to conduct a referendum on continuing the assessment on peach trees.

April 25, 1966
Raleigh

J. Atwell Alexander, Thomas O. Gilmore, Thomas G. Joyner, Charles F. Phillips, Henry Gray Shelton, Richard N. Barber, Jr., Claude T. Hall, J. H. Poole, David Townsend, Jr.

Approve Referendum For Apple Growers

Approved a request from the North Carolina Apple Growers Association to hold a referendum in 1966.

Cocklebur Added To Noxious Weed List

Voted to add cocklebur seed to the list of noxious weeds prohibited and restricted in North Carolina.

Approve Land Trade, Coastal Plains Research Station

Approved a request to exchange two acres of land on the Coastal Plains Research Station at Willard, to be used to construct an airport runway, in return for the development of an irrigation pond for the station.

Approve NCSU-NCDA Agreement

Approved an agreement between the Department and N. C. State University to use department property as right-of-way for improving roads in the vicinity of the N. C. State Fairgrounds and Carter Stadium.

Define Fruit Punch and Fruit Drink

Amended Rules and Regulations to include definitions and standards for fruit punch and fruit drinks bottled in Grade A dairies in North Carolina.

Approve Warehouse Loan

Approved a loan from the State Warehouse Fund of $41,000 to the House Milling Company of Newton Grove.

June 7, 1966
Raleigh

J. Atwell Alexander, Thomas O. Gilmore, Thomas G. Joyner, Charles F. Phillips, Henry Gray Shelton, Richard N. Barber, Jr., Claude T. Hall, George P. Kittrell, and J. H. Poole.

New Fertilizer Grade List Approved

Approved a list of fertilizer ratios and minimum grades to be used in 1966-67.

Amend Feed Regulations

Board voted to amend the feed regulations by deleting the section governing diethylstilbestol mixtures, since other medicated feed regulations are sufficient to regulate these mixtures.

Approve Regulation Sub-Division

Approved a request from the Secretary of the Board to sub-divide and re-code Chapter IX of the Rules and Regulations since the chapter contained so many varied subjects.

Approve Soybean Referendum

Approved a request from the newly-organized N. C. Soybean Producers Association to conduct a referendum in 1966.

Investigate Request To Sell Land

Instructed Board Member Charles F. Phillips to look into a request from H. R. Shulenburger that the Board sell him a tract of land on the Piedmont Research Station.

Honor Former Members

Adopted resolutions honoring S. C. Lattimore and Reeves Noland, both former members of the Board who recently passed away.

ACCOUNTS

Mrs. Grace H. Malloy
Controller

The Central Division of Accounts and Personnel is responsible for management and control of the fiscal and personnel affairs for the Department of Agriculture proper and all other General Fund and Special Fund Programs administered by the department. Responsibilities of this division include: procurement of operational funds, procurement of operational supply requirements, acceptance and accounting for receipts, the disbursement of funds, budget maintenance and control, the collection of a variety of taxes and fees and the collection of assessments for nine agricultural promotional organizations and foundations, and personnel management and control.

DEPARTMENT OF AGRICULTURE

Code 28021

Statement of Disbursements
July 1, 1964-June 30, 1966

Summary by Purposes	*1965-66*	*1964-65*
I. General Administration:	$ 587,222.72	$ 429,421.89
Administration	63,355.80	64,051.24
Accounting	88,115.09	73,888.25
Publications	52,527.61	49,917.18
Custodial	20,472.48	19,570.48
Miscellaneous	362,751.74	221,994.74
II. Inspection and Regulation:	993,501.00	808,050.93
Feed, Fertilizer, Insecticide Inspection	91,563.55	82,625.45
Egg Inspection	50,231.17	
Entomology Inspection	108,766.09	99,800.73
Weights and Measures Inspection	152,323.07	139,997.14
Meat and Poultry Inspection	590,617.12	485,627.61
III. Markets Division	523,257.68	456,703.36

IV.	Analytical and Regulation:	763,853.48	654,780.45
	Dairy Services	104,755.04	94,316.50
	Seed Testing	117,137.47	108,421.13
	Analytical (Chemistry)	376,461.12	320,662.55
	Soil Testing	165,499.85	131,380.27
V.	Crop Statistics Division	172,851.49	169,175.54
VI.	Veterinary Division	738,847.45	652,529.99
VII.	Research Stations Operations	812,549.44	718,723.42
VIII.	State Museum of Natural History	77,392.39	53,621.33
IX.	Distribution of USDA Donated Commodities:		
	Revolving Fund	3,583.08	6,842.53
	General Program—Distribution to Needy Families	411,562.00	323,622.44
X.	Merit Salary Increments		
XI.	Transfer to Capital Improvements Code 66558 Item I—State Fairgrounds Utilities	91,088.63	
XII.	Settlement, Ramsey Feed Mills vs. N. C. Department of Agriculture	23,406.73	
XIII.	Imported Fire Ant Control	39,784.55	2,265.00
	Deferred Obligations Transferred to 1965-66		49,526.00
	TOTAL DISBURSEMENTS	$5,238,900.64	$4,325,262.88

SUMMARY BY OBJECTS	*1965-66*	*1964-65*
Salaries and Wages	$3,397,389.94	$2,898,848.56
Supplies and Materials	288,468.93	221,370.68
Postage, Telephone, Telegraph and Express	64,718.48	51,705.57
Travel Expense	303,359.04	288,344.04
Printing and Binding	40,019.34	44,779.47
Motor Vehicle Operation	23,893.84	21,254.26
Lights, Power and Water	13,968.43	11,920.86
Repairs and Alterations	75,405.28	54,171.16
General Expense	414,215.02	389,180.91
Insurance and Bonding	7,019.58	6,863.22
Equipment	173,811.41	107,321.89
Stores for Resale	25,560.99	20,893.11
Contribution to Retirement System	192,830.00	86,822.92
Contribution to Social Security	103,745.00	72,260.23
Merit Salary Increments		
Transfer to Capital Improvements Code 66558 Item 1 State Fairgrounds Utilities	91,088.63	
Settlement, Ramsey Feed Mills vs. N. C. Department of Agriculture	23,406.73	
Deferred Obligations Transferred to 1965-66		49,526.00
TOTAL DISBURSEMENTS	$5,238,900.64	$4,325,262.88

DEPARTMENT OF AGRICULTURE

Code 28021

Statement of Receipts

July 1, 1964-June 30, 1966

	1965-66	*1964-65*
1. Fertilizer Tax	$ 419,815.92	$ 405,356.97
2. Feed Tax	184,523.98	422,800.49
3. Research Stations	260,461.44	241,077.85
4. Miscellaneous Receipts:	465,591.51	448,495.00
Federal Funds:		
Research and Marketing Act	74,561.03	62,639.59
USDA Cooperative Agreements	2,757.82	4,032.66
Miscellaneous Receipts:		
Sale of Equipment	3,000.76	3,718.85
Transfers from Other Codes	42,013.13	11,176.00
Miscellaneous	94,277.62	49,505.63
Sale of Securities (U. S. Treasury Bonds)	91,088.63	
Deferred Obligations Transferred from 1964-65	49,526.00	
Transfer Agriculture Fund Code 28721 Cash Balance as of 7/1/65	15,708.94	
TOTAL RECEIPTS	$1,703,326.78	$1,648,803.04

CONDITION OF FUNDS

	1965-66	*1964-65*
Treasurer's Cash—July 1	$	$ 33,751.50
Receipts	1,703,326.78	1,648,803.04
General Fund Appropriation	3,535,573.86	2,658,417.28
Disbursements	5,238,900.64	4,325,262.88
Treasurer's Cash—June 30	-0-	15,708.94
Investments in Bonds and Premiums on Bonds	-0-	103,874.98
TOTAL CREDIT BALANCE JUNE 30	-0-	$ 119,583.92

GASOLINE AND OIL INSPECTION

General Fund—Code 12201

Statement of Receipts and Disbursements

July 1, 1964-June 30, 1966

	1965-66	*1964-65*
General Fund Appropriation	$ 120,946.00	$ 107,701.00
Receipts: Transfer from Highway Fund	363,134.00	339,411.00
Disbursements	461,880.64	418,804.92
Unexpended Balance of Appropriation	22,199.36	28,307.08

STATE WAREHOUSE FUND

Special Fund—Code 28727

Statement of Receipts and Disbursements

July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 59,104.10	$ 53,572.50
Receipts:		
Revenue Collections	46,999.97	48,701.63
Miscellaneous Collections		23,711.17
Repayment of Loans	89,445.58	108,650.00
Guarantee Fund	127.53	387.54
Sale of State Property		150.00
Disbursements:		
Expenditures	43,582.28	41,029.31
Miscellaneous Expenditures		23,711.17
Loans to Warehouses	72,000.00	97,500.00
Guarantee Fund		13,828.26
Credit Balance—June 30	80,094.90	59,104.10
Loans to Warehouses	524,530.22	541,250.00
Invested in 2½% U. S. Gov't. Bonds	88,000.00	88,000.00
Total Worth—June 30	692,625.12	688,354.10

COOPERATIVE INSPECTION SERVICE

Special Fund—Code 28731

Statement of Receipts and Disbursements

July 1, 1964-June 30, 1966

	1965-66	*1964-65*
Treasurer's Cash—July 1	$ 409,042.03	$ 418,765.31
Invested in 2½% U. S. Gov't. Bonds	40,000.00	40,000.00
Premiums on Bonds	1,175.00	1,175.00
Credit Balance—July 1	450,217.03	459,940.31
Receipts	713,129.92	630,846.67
Disbursements	635,945.40	640,569.95
Credit Balance—June 30	527,401.55	450,217.03

EGG MARKETING ACT

Special Fund—Code 28733

Statement of Receipts and Disbursements

July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 11,441.03	$ 13,865.31
Receipts	2,816.40	32,224.74
Disbursements	13,603.00	34,649.02
Credit Balance—June 30	654.43	11,441.03

STRUCTURAL PEST CONTROL

Special Fund—Code 28735

Statement of Receipts and Disbursements

July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 9,391.61	$ 12,196.68
Receipts	21,647.00	20,449.00
Disbursements	24,547.18	23,254.07
Credit Balance—June 30	6,491.43	9,391.61

VOLUNTARY POULTRY INSPECTION
Special Fund—Code 28737

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 2,161.70	$ 2,161.70
Transferred to Code 28021	2,161.70	
Credit Balance—June 30	-0-	2,161.70

CREDIT UNION SUPERVISION
Special Fund—Code 28739

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

	1965-66	*1964-65*
Credit Balance—July 1	$ 59,967.40	$ 45,433.55
Receipts	92,559.75	82,355.87
Disbursements	77,473.24	67,822.02
Credit Balance—June 30	75,053.91	59,967.40

SHEEP AND WOODLAND REVOLVING FUND
Special Fund—Code 28745

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 101,913.31	$ 84,666.51
Receipts	63,401.73	42,179.28
Disbursements	68,036.08	24,932.48
Credit Balance—June 30	97,278.96	101,913.31

SPECIAL DEPOSITORY ACCOUNT
Special Fund—Code 28751

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 128,389.19	$ 129,008.82
Receipts:		
Cash Bond Deposits	250.00	232.44
Surplus Commodities Revolving Fund	5,901.67	4,387.52
Research and Marketing Act	78,000.00	58,400.00
Hall of Fame	35.00	
Disbursements:		
Refund of Bond Deposits		1,000.00
Reimbursement to Code 28021 Revolving Fund	3,440.45	
Transfer to Code 28021 RMA	74,561.03	62,639.59
Credit Balance—June 30	134,574.38	128,389.19

VOLUNTARY MEAT INSPECTION
Special Fund—Code 28753

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 14,984.60	$ 14,984.60
Receipts		
Disbursements—Transferred to Code 28021	14,984.60	
Credit Balance—June 30	-0-	14,984.60

OPERATION OF FARMER'S MARKET
Special Fund—Code 28755

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

	1965-66	*1964-65*
Credit Balance—July 1	$ 9,811.85	$ 6,565.51
Receipts	79,590.62	73,233.92
Disbursements	68,567.59	69,987.58
Credit Balance—June 30	20,834.88	9,811.85

CAPITAL IMPROVEMENTS OF 1957
Code 65777

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Appropriation	$	$ 72.83
Transfer Balance from Permanent Improvement Fund of 1949 Code 64981		
Disbursements		
Unexpended Balance of Appropriation Reverted to General Fund 6/30/65		72.83
Balance		-0-

CAPITAL IMPROVEMENTS OF 1959
Code 65961

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Appropriation	$ 367.60	$ 367.60
Receipts Highway Commission		
Disbursements		
Unexpended Balance of Appropriation	367.60	367.60

CAPITAL IMPROVEMENTS OF 1961
Code 66108

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Appropriation	$ .33	$ .33
Receipts:		
City & County Property Taxes		
Raleigh Farmers Market, Inc.		
Disbursements		
Unexpended Balance of Appropriation	.33	.33

CAPITAL IMPROVEMENTS OF 1963
Code 66354

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

	1965-66	*1964-65*
Appropriation	$ 141,323.54	$ 241.149.65
Receipts:		
Right-of-Way Easement Public Service Co. of N. C.		
Fire Loss—State Property		
Fire Insurance Fund		
Disbursements	36,901.60	99,826.11
Unexpended Balance of Appropriation	104,421.94	141,323.54

CAPITAL IMPROVEMENTS OF 1965

Code 66558

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Appropriation	$ 67,100.00	$
Receipts:		
Funds on Hand (Sale of Bonds)	91,088.63	
Sale of Oxford Tobacco Research Station Land	15,787.50	
Sale of Land and Easement, Piedmont Research Station	3,705.40	
Disbursements	26,402.49	
Unexpended Balance of Appropriation	151,279.04	

AGRICULTURAL FOUNDATION ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 59,939.91	$ 59,901.00
Receipts	162,532.41	160,326.18
Disbursements	165,578.11	160,287.27
Credit Balance—June 30	56,894.21	59,939.91

CATTLE ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 10,028.54	$ 9,446.32
Receipts	27,556.66	28,382.22
Disbursements	28,000.00	27,800.00
Credit Balance—June 30	9,585.20	10,028.54

COTTON ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

	1965-66	*1964-65*
Credit Balance—July 1	$ 403.48	$ 596.13
Receipts	21,579.94	35,807.35
Disbursements	21,800.00	36,000.00
Credit Balance—June 30	183.42	403.48

PEACH ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 372.23	$ 127.73
Receipts	3,139.39	244.50
Disbursements	3,000.00	
Credit Balance—June 30	511.62	372.23

PEANUT ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 4,583.37	$ 8,844.98
Receipts	74,401.13	62,138.39
Disbursements	69,500.00	66,400.00
Credit Balance—June 30	9,484.50	4,583.37

POULTRY ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 15,939.89	$ 17,649.05
Receipts	61,930.59	76,290.84
Disbursements	66,200.00	78,000.00
Credit Balance—June 30	11,670.48	15,939.89

SWEET POTATO ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ 151.15	$ 750.80
Receipts	28,164.77	18,600.35
Disbursements	28,100.00	19,200.00
Credit Balance—June 30	215.92	151.15

SWINE ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

	1965-66	*1964-65*
Credit Balance—July 1	$ 454.19	$ 727.27
Receipts	64,180.47	60,726.92
Disbursements	64,000.00	61,000.00
Credit Balance—June 30	634.66	454.19

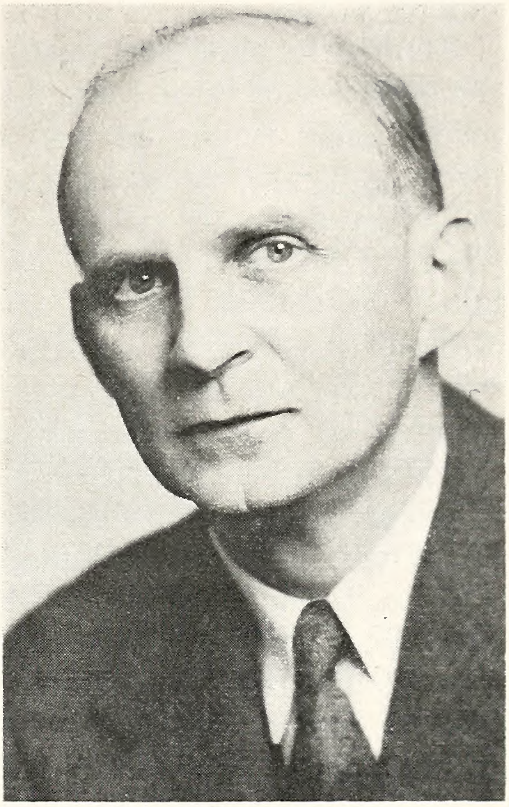
EGG ASSESSMENT

Statement of Receipts and Disbursements
July 1, 1964-June 30, 1966

Credit Balance—July 1	$ -0-
Receipts	4,150.80
Disbursements	-0-
Credit Balance—June 30	4,150.80

DIVISION OF CHEMISTRY

DR. E. W. CONSTABLE
State Chemist



The Chemistry Division, as the name implies, is concerned largely with the administration of those control laws which involve chemistry and its related fields for the evaluation of the products covered by these laws and to determine compliance with legal and regulatory requirements.

These laws, 14 in number, apply respectively to commercial fertilizers, fertilizer materials, manipulated (processed and packaged) manures and mulches fortified with plant food; agricultural liming materials and landplaster; commercial livestock, domestic animal and poultry feeds both medicated and regulated feeds; canned dog and pet foods; pesticides, this covering insecticides, rodenticides, herbicides, plant defoliants, repellents and similar materials; the application of pesticides by aircraft; internal combustion (automotive) engine antifreezes; human foods, drugs and cosmetics, bakeries, bottling plants, artificially bleached flour; flour, bread and corn meal enrichment; oleomargarine; and linseed oils.

The basic purposes of these laws are to safeguard consumer health and welfare, assure sound and safe products which are informatively and truthfully labeled, to safeguard and promote sound businesses, and to curb spurious or misleading claims and representations, fraud and unscrupulous and destructive competition.

For examples: The quality of, or honesty in the labeling of fertilizers, commercial feeds, pesticides or landplaster cannot be judged alone by look, odor, feel or taste, if one wishes to venture that far. Similarly, the purity of linseed oil or the safety and effectiveness of antifreeze preparations cannot be so judged (spurious brands of the latter having caused millions of dollars in damages prior to enactment of the current antifreeze control law). Similarly, the adulteration and misbranding of foods, drugs, cosmetics and devices can seldom be judged alone by the human senses.

Among the chief requirements and activities for accomplishing the purposes of these control laws are the registration of products prior to sale, issuing permits and licenses to sell; meeting specific legal requirements as to guarantees, composition and labeling, including adequate notices of caution and warnings, directions for use, and antidotes in case of accident from products of a highly hazardous nature; prescribing definitions and standards of identity and promulgating rules and regulations where necessary in the interest of consumers; inspecting premises, requiring satisfactory safeguards and sanitation for products for human consumption; collecting official samples for chemical and other analyses to determine compliance and issuing reports thereon; checking credentials and qualifications for issuance of aerial crop dusting licenses; issuing warnings where deviations develop, embargoes on violative products, and cancellations of licenses, permits and registrations where defect or default (uncorrected) later come to light; and instituting court actions as ultimate circumstances may dictate.

Activities under these various categories, along with other pertinent information, are given in the following sections.

COMMERCIAL FERTILIZERS, AGRICULTURAL LIMING MATERIALS AND LANDPLASTER

The determination of compliance with the laws applying to fertilizers, agricultural liming material and landplaster as to registrations, labeling, payment of inspections fees and meeting guarantees, requires that inspections be carried out in all parts of the state and official samples be collected for chemical and other analyses.

For fertilizer, the analyses required are for the major plant foods (nitrogen, phosphate, and potash), the secondary plant foods (calcium, magnesium, sulfur and boron), for acid-base forming qualities and chlorine, and for the trace elements (manganese, copper, iron, zinc and molybdenum). Analyses on liming materials are for calcium, magnesium, acid-neutralizing value, fineness of particle size, and for potash when that is included; and for landplaster its content of calcium sulphate.

Coverage for the biennium was:

Official fertilizer samples	20,010
Unofficial samples of fertilizers and materials for farmers	53
Official liming materials, lime-potash mixtures and landplaster	441
Total	20,504

As rapidly as the analytical work was completed, individual analysis reports were forwarded to all concerned. In order to make all of this work available to the public, it was later published collectively in annual issues of the "Fertilizer Report" which are put out by the department for that purpose.

Inspections and analyses of liming materials and landplaster for the biennium, in line with the experience of preceding years, showed these products generally to be of standard quality and to satisfactorily measure up to the guarantees made for them. Deficiencies and defects in these were found to be within the usual range and, where found, were adjusted as provided by the respective laws. Fertilizer analyses showed greater than normal deviations, the deficiencies, particularly those below the normal tolerances which are characteristic of usual good manufacturing practices, indicated the need for further evaluation. The following section gives this in outline.

Fertilizer Deficiencies

Fertilizers showed a situation of concern, particularly for the last fiscal year of the biennium, 1965-66, in that the number of penalty-deficiency samples, in rounded figures, expanded to 15% of the 10,000 samples worked, whereas, for the preceding year, 1964-65, this figure was 6.9%. The average per year for the preceding four years, 1960-64, was 5%. This situation obviously required additional study and adjustment.

The fertilizer industry has been becoming increasingly complex in the past decade. Each added development could be expected to create some problems of readjustment, which would be reflected in increased penalties until the new developments were worked smoothly into existing operations. Then the deficiency index would decline to a level characteristic of good manufacturing practices. This was the trend during the period 1960-65, which were years of sharply increasing technological developments in the industry.

Developments in the 1960-1965 period which contributed to increased deficiencies included more fertilizers guaranteeing secondary plant foods (calcium, magnesium, sulfur and boron); the adding and guaranteeing of trace elements (manganese, copper, iron, zinc, molybdenum and boron); the introduction of new forms, such as pellets and granular, and of new products such as potassium nitrate and ammonium phosphates; the so-called bulk mixing and handling of fertilizers; and increased use of nitrogen solutions and liquid mixed fertilizers. This period was characterized by rises and declines in numbers of deficiencies as various new developments were first introduced and then worked efficiently into the manufacturing processes.

However, the upsurge of deficiencies in the year 1965-66 reflects a new influence, that of major changes in the corporate structure of the fertilizer industry. During this period, many old-line fertilizer firms which initiated, developed and matured in the business of fertilizer manufacture, and whose management personnel were masters of its highly complex technology, were bought up by large corporations whose major interests have heretofore been in other lines of production.

The high incidence of deficiencies for 1965-66 can logically be attributed to changes in management or managerial authority as a result of transfers in ownership. However, this has meant a proportionate over-burden in our control work to adjust, clarify and correct for the protection of the state's farmers and its agricultural progress. And it is a trend that could become permanent unless we continue to be extremely diligent in our enforcement procedures, and vigilant in developing regulatory measures to provide necessary restrictions.

Liquid Commercial Fertilizers

The use of fertilizers in liquid form continued to expand markedly in the state. Up to 1964 there were 11 plants producing liquid mixed fertilizers (those mixed to contained two or more plant food elements such as nitrogen, phosphate, potash and others). From that period through 1966, that number expanded to 21 plants, an increase of 91%. In rounded figures, the tonnage increased from 17.6 to 30.6, an increase of 73% during this period. The use of nitrogen solutions earlier established in the eastern part of the state, continued to expand in that area with additional installations and equipment, and also expanded into the west. The increase in tonnage used from 1964-65 through 1965-66 was 30%. These figures indicate that liquid commercial fertilizers are finding areas of appropriate service and economic advantage in North Carolina agriculture.

COMMERCIAL FEEDS

The North Carolina Feed Law and Canned Dog Food Law apply to commercial feeds for livestock, domestic animals and poultry and to canned pet foods for dogs and cats. Registrations, checking of labels and state-wide inspections and collection of official samples are among the requirements for determining compliance both of the products themselves and for the payment of inspections fees. Feed samples are analyzed chemically, microscopically and by other means to determine the content of crude protein, crude fat, and crude fiber; the presence, identity and quantity of drugs, growth stimulants and other additives; the presence and condition of declared ingredients, of substitutions and adulterants; and the compliance with guarantees and standards.

Additionally, analyses were made on feed samples for farmers in connection with the cooperative forage improvement program carried on jointly by the Department of Agriculture and North Carolina State University.

Since a large percentage of the feeds now used contain additives, such as hormones and other growth stimulants and drugs in both prophylactic and medicinal quantities, the analytical work required to cover these additives greatly increases the work load. These added analyses are a specialty within themselves and require facilities and applications different and apart from the usual feed analyses.

Results of the work for the biennium showed that, in general, feed standards and quality were maintained on a satisfactory level. There was the usual number of deficiencies, deviations from guaranteed composition and other defects. In cases which so qualified, consumers were reimbursed according to the penalty provisions of the law and, in others, the products were removed from the market for reprocessing or other appropriate handling.

As rapidly as analyses were completed, individual reports were forwarded to all concerned. The work of each year them was made available to the public collectively in the annual "Feed Report".

Coverage for the biennium was:

Official feed samples	5,537
Unofficial feed samples	140
Analyses for medication in above feeds (925)	
Samples run for farmers in forage improvement program—N. C. Department of Agriculture cooperating with N. C. State	1,760
Total	7,437

Amended Feed Law

The feed law was amended by the Legislature of 1965, restating its purpose, revising certain definitions, procedures and applications and reducing the inspection fee. The restated purpose reads—"The purpose of this article is to protect a farmer-buyer from the manufacturer-seller of concentrated, commercial feeds who might sell substandard or mislabeled feed stuff, and not to protect from himself a farmer who mixes his own feed."

Customer formula feeds were redefined as those feeds which are mixed according to the customer's formula, the formula being supplied in writing over the customer's, or his agent's signature. Such feeds shall not be stocked or displayed in sales areas or resold commercially. The delivery of these feeds, in order to be properly in line, must be directly from manufacturer to customer possession.

The labeling for these customer formula feeds is required to accompany the invoices and be supplied to customers at the time of delivery. It is required to show the names and addresses of both the manufacturer and the customer, the date of delivery, the product name and brand, the name and pounds of each registered commercial feed and of each other ingredient in the feed. Further, the labels must declare the name and amount of any content of drugs, prophylactics, growth stimulants or other remedial additives, and give directions for use and warnings against misuse.

Customer formula feeds classify with those which are mixed by farmers for their own use, the difference being that the custom miller does the mixing and may supply any or all of the ingredients. Of the ingredients in these feeds, only the concentrates and mineral feed (these being already manufactured products) are subject to inspection fees. These, however, lose their original identity at the point of mixing with other ingredients. The law neither levies inspection fees on customer formula feeds, nor holds them subject to control measures such as registration, guarantees, inspections, sampling and analyses. Their status as received by the customer, as with farmer-mixed feeds, is his responsibility and requires his attention accordingly.

The customer-formula provision adjusts both for the inadequacy of the earlier law in this area, and provides specific status for this infinitely variable class of feeds. The fact, however, that the Department receives many requests, at times with complaint, for analysis of customer formula feed reflects that the status as above described is not fully understood. Such analyses would be meaningless since they would vary as infinitely as the mixtures themselves, and there are no specific guarantees to check against.

It should be understood that customer-formula feeds and farmer-mixed feeds are in a similar classification, whereas the registered, inspection-fee paid and guaranteed feeds are in another class. The buyer is at liberty to choose either the registered, guaranteed feeds which are fully subject to control under the law; or the customer-formula feeds on his own responsibility. This is the application of the stated purpose of the amended law—to protect the farmer-buyer from substandard and misbranded feeds, but not to protect him from himself.

Further major change was the reduction of the earlier twenty-five cents (25¢) per ton feed inspection fee to twelve cents (12¢). This, in consequence of a decision by the State Supreme Court, does not apply to finished feeds used in the contract feeding of livestock and poultry, but it does apply to all commercial feeding stuffs, as defined in the law, which go into these and other feeds. That decision in effect qualified the contract-feed producer as mixing feed for his own livestock and poultry, and the contract grower as his employee; the feed thus being placed in the category of not being sold and therefore not subject to registration and inspection.

In summary, the amended law sets up several areas and applications, namely: registered and guaranteed feeds which are subject to all control measures; the customer-formula and the farmer-mixed feeds, both of which are matters of user responsibility; and the contract-grower feeds which are the concern of the contracting parties. A fuller understanding of these provisions would in large measure serve to allay current question and confusion.

ECONOMIC POISONS

The North Carolina Insecticide Law, similarly as the fertilizer and feed laws, has among its requirements the registration of all pesticides before being offered for sale, the review of labels for compliance with various stipulations such as identity of the product, name and address of the responsible agents, net contents, name and percent of each active ingredient, with total percent of inert ingredients, valid formulations, directions for proper use, cautions against misuse, and first aid or antidotes for highly dangerous chemicals. Statewide inspections are required as accessory in checking labeling, registrations, the payment of inspection fees, and for the collection of official samples for analysis to determine compliance with guarantees.

Coverage for this biennium was—Official samples, 2,758.

Results of the work showed that standards were maintained and requirements, except for delinquent registrations, were complied with on an acceptable level as compared to previous experience over a period of years and that generally satisfactory products were delivered to users.

A persisting tendency of laxity in applying for registrations prior to putting products on sale, while not appearing to be attempts at evasion, is inequitable and results in continuing trouble and much extra and unjustifiable work. Stop-sale orders as prescribed by law have not sufficiently curbed this defect. A more effective remedy is needed. One proposal frequently made is that the combination registration-inspection fee per item be increased for the after-sale registration to a figure making prompt attention to this legal requirement economically significant. Correction of the tendency would be an asset to all concerned.

The results of each year's work were made available collectively to the public through the annual "Insecticide Report" which is published by the department for that purpose.

APPLICATION OF PESTICIDES BY AIRCRAFT

The North Carolina Aerial Crop-Dusting Law in general continues to serve satisfactorily the purposes for which it was instituted; namely, to eliminate unethical practices, irresponsible performances and unscrupulous and destructive competition which at one time plagued the industry and consequently resulted in organized legislative moves to outlaw this activity.

To have eliminated this very useful agricultural service, particularly at such times when coincident rainy weather and pest depredations made this mode of control the most practical one, would have imposed a handicap on agriculture. Obviously, the constructive course was to preserve this service by legally establishing proper discipline and responsibility—the common basis of all control laws which serve to protect and promote the valid interests both of consumers and of sound businesses.

In general, the limited number of complaints that now come to the Department relative to nuisance performances, unethical practices and unsatisfactory work, indicate that the irresponsible operators have found North Carolina to be an unattractive field for them and that this useful agricultural service has evolved into the hands of sound businesses. The few irregularities encountered were mainly in the area of failure to procure licenses and provide the required insurance coverage. These were corrected.

This generally satisfactory status, however, should not be permitted to engender a false sense of permanent adequacy. The continuing change in agricultural practices and pesticide uses will undoubtedly bring changes in problems such as proper time and application of appropriate pesticides and weed killers, controlling drift, avoidance of excessive or untimely application which may endanger harvesters or result in harmful residues in foods and feeds, avoidance of detrimental soil poisoning and others. Continuing foresight and planning in adjusting to these changes are prerequisite in maintaining the safety and welfare intended under this law.

The law requires that both contractors and applicators in this field first properly qualify under federal requirements for the operation of aircraft, then in North Carolina, that the contractors and applicators qualify for this type of work and procure licenses accordingly. Further requirements are for sound and ethical business practices and proper use and application of pesticides.

Licenses issued for the biennium were to 96 contractors and 196 applicators.

AUTOMOTIVE ANTIFREEZES

The current automotive antifreeze status in North Carolina continues to demonstrate the effectiveness of the Internal Combustion Engine Antifreeze Law and of its administration in assuring operators of motor vehicles adequate supplies of high grade products, in relieving ethical manufacturers of unscrupulous competition, in keeping spurious products off the market and in relieving North Carolina merchants of the liability of dealing in spurious and falsely represented products. Effectiveness is further demonstrated by the fact that complaints of failures and damage to engines and accessories continues to remain at zero; whereas, prior to the enactment of the law, these were at a high and clamorous level and damage costs ran into extremely high figures.

This sound position, however, is not maintained free of challenge. There is increasing pressure, at times voicing proposed legal action, to penetrate the North Carolina market with degraded and cheapened products designed for competitive advantage and higher profits.

One such practice is to dilute the usual antifreeze concentrates as purchased by motorists, with 20 to 25 percent water. While appearing at first sight to offer a lower price, this meant the unsuspecting motorist either would end up with inadequate protection or be under the necessity of purchasing a larger quantity of this water-antifreeze mixture to get normal protection. The latter, because of additional packaging and handling costs, would penalize him with further excess costs.

Another such move was to establish a practice by filling stations, when refueling cars, to sell the idea of replenishing the radiator fill with a 50-50 mixture of anti-freeze and water. Obviously, this would be contradictory to the earlier sales claim of "permanence", and with no sounder reason than increase of volume sale, also capitalizing on defective cooling systems, or overfilling the required expansion area of cooling systems with such mixture, only for it to be overflowed on the streets and roads upon reaching normal engine operating temperatures, thus imposing unnecessary costs to motorists.

Two other practices which involved added water were to gradually increase the required 3.5 to 4 percent of water in concentrates to hold rust and corrosion inhibitors in solution until mixed in radiator water; and a 50-50 mixture of antifreeze and deminerailzed water, stated to be for use in western states where higheralized water, stated to be for use in western states where highwater in concentrates could be considered only as an adulterant. The 50-50 mixture, if to be put on the North Carolina market, was qualified as requiring clear and specific labeling to unquestionably inform buyers of the exact nature, composition and purpost of the product. To date, the 50-50 mixtures has not been put on the North Carolina market. None of the other questioned practices have been qualified as acceptable under the North Carolina law. Consequently, the automotive antifreeze status in the state continues on a sound and fair basis.

A number of manufacturers and distributors, upon inquiring regarding these practices and being advised that they would not be acceptable in North Carolina, expressed their approval and appreciation that the trade would be kept above such level.

Registrations in North Carolina for the year 1964-65 were 95 brands; for 1965-66, 93 brands, these representing a total of 41 manufacturers.

FOODS, DRUGS AND COSMETICS

The laws applying to food and drug control are the North Carolina Food, Drug and Cosmetic Act, the Bottling Plant Law, the Bakery Inspection Law, the Artificially Bleached Flour Law, the Flour, Bread, and Corn Meal Enrichment Act and the Oleomargarine Law. The first named law is basic and applies generally whereas the others are supplementary and are delineated to specific areas as the respective names indicate. The supplementary laws spell out in extensive detail applications to features peculiar to the specific products and conditions under which they are made. Collectively, the general purposes of these laws are to safeguard the health and welfare of consumers by assuring them of safe, wholesome, economically sound and clearly and honestly labeled supplies of foods, drugs, cosmetics and therapeutic devices.

Among the things which are indispensable to the accomplishment of these purposes are that the products themselves be, or be compounded of, sound and wholesome raw materials appropriate for the uses intended; that the handling, processing, packaging and storing be carried out in a sanitary manner fully adequate for public safety; and that the environment, equipment, housing, vehicles and other facilities which in any way may contact or affect the products be maintained and used in a manner so as to preclude any exposure that may result in contamination or other harmful effects.

Among these procedures stipulated by these laws for determining compliance are regular, systematic state-wide inspections with written inspection reports; recommendations, written and verbal, for correcting minor deviations; requiring the correction or discontinuation of operations where there is gross failure in compliance; instructing in the correction of minor defects such as labeling omissions or deviations; placing embargoes on products when there is, or appears to be, question regarding public health and welfare and, where fitting cooperative procedures prove inadequate, applying other legal remedies as provided. Summary of these activities for the biennium follow.

Food Plant Inspections

Bakeries and Doughnut Plants	2,352
Bottling Plants	1,073
Other types of plants and storages (processing and Packaging meats, pickles, seafood, flour, meal, candy, potato chips, fruits and vegetables, etc.)	2,715
Total	6,140

Plant Operations Suspended

Bakeries	18
Bottling Plants	1
Others (as listed in preceding tabulation)	8
Total	27

Analyses of Samples, Embargoes

Indispensable in carrying out the requirements of the food law is the state-wide collection of official samples for examination of labels for general complance, and the analysis of samples, by chemical, physical, optical, microscopic and other techniques to determine if there be adulteration or misbranding.

The great bulk of foods on the market are generally found to be safe and satisfactory. However, there always are found appreciable quantities which are violative as is reflected in the results of work on some 2,300 samples analyzed and the 390 embargoes applied. These represent all types and classes of food and beverages such as flour, meal and numerous other cereal products; meats, vegetables, canned, bottled and frozen products, fruits (fresh and processed), bakery products, sugar, candies, pickles, condiments, salt, seasonings, butter, eggs, shortenings, and numerous others.

Among the violative features were misbranding, sub-grade products, spoilage; rusty, leaky, and otherwise damaged containers, exposure to insanitation; contamination with filth, or by insects, rodents, worms, and other vermin; fire, flood, storm wreck damage, other exposures, and other sources of adulteration, both inadvertent and intentional. Several examples of the intentional are ground hulls in peanut butter and in cocoa, parched cereal in ground coffee, water—the universal adulterant—in oysters, milk, meats and others; starches, gums, gelatin and cereals as fillers in many foods; chemical preservatives and artificial colors in and on fresh meats, etc.

Catastrophes

Catastrophes such as fires, floods, storms and wrecks, along with other destruction and losses, regularly take a toll in food, drugs and cosmetics. The resultant exposure, damage, contamination and spoilage involve human health and welfare. Lack of knowledge of the accompanying danger, and the tendency to overzealous salvaging, can result in epidemic sickness and injury. The Food, Drug and Cosmetic Law being involved brings this division into prompt action.

Health authorities, police, insurance companies and businesses usually give the division prompt notice of these occurrences and request help. However, inspectors, following long esablished policy and regardless of hours, usually are already on the job. All exposed foods, drugs and cosmetics are paced under blanket embargo. Then follows the process of segregation and classification—the safely salvageable being released, the questionable ones sampled and analyzed, and the obviously unfit being destroyed; and all under inspector supervision and direction.

In total, 37 such fires were covered in various towns and cities—Newton, Mt. Airy, Raleigh, Morehead City, Tabor City, Lenoir, Hudson, Taylorsville, Rockingham, Salisbury, Boone, Charlotte, Ahoskie, Thomasville, Dunn, Wilson, Durham, Boiling Springs, Whiteville, Smithfied, Sanford, Trinity, Jacksonville, Concord, and Chapel Hill. Total losses in vaue was $1,191,000. Floods, storms and wrecks for the period, fortunately were very few and accounted for unusualy limited damage.

Food Poisoning

Regrettably, there always are a number of food poisoning cases, but fortunately they are most always of the milder form, resulting from bacteria such as the staphylococcus group. These cause mild to severe illness, and at times, hospitalization, but seldom death. Much more grave is the type caused by the toxin from the organism Clostridium botulinum. The appearance or threat of botulism from the latter organism is a "three-alarm" call to bring all health and food control people into immediate action without concern for hours.

This division was concerned in two such instances involving vacuum packed, smoked whitefish and canned tuna fish. The trouble appeared in a number of states. Public agencies generally cooperated as a team. Four deaths and five illnesses were reported, none in North Carolina. The suspect products in this state were rounded up promptly and detained under food embargoes pending further action. The questionable brands and lots were then permanently removed.

The seriousness and alarm from these occurrences is reflected in the fact that, as a result of public alarm, the smoked whitefish business of the Great Lakes area folded, and big tuna fish canneries on the Pacific coast closed. An extremely insidious and dangerous feature of botulinas spoilage is that, unlike other types of spoilage, it creates no readily detectable appearance or odor of spoilage and no gas, therefore no warning pressure or swelling of containers. Few people would be likely to notice it. An antitoxin is available and effective when promptly utilized.

Hazardous Food Accessories

Hazards to food can show up at times from the least anticipated sources. This was demonstrated in the appearance on the novelty market, of so-called "iceballs" and "pink elephants". These, imported largely from the Orient, particularly Hong Kong, China, were plastic shells in spherical and other shapes, approximately one to 1.5 inches in size, filled with water and intended for freezing and use in cooling beverages and food.

The fragility of the shells, many of which leaked and ruptured both before and after freezing, and the consequent release into beverages and food of the highly contaminated water contained in them, constituted a threat to consumers.

Reports, collectively, from official agencies of this and various states showed the water from many of these iceballs to contain filth such as lint, nondescript dirt, hair, feather and insect fragments, plant fibers resembling cotton, paper pulp and others. Living forms, predominantly bacteria, included mold, algae, diatoms, protozoa, nematode worms and others (microscopic forms found in raw untreated water of high organic content such as sewage).

Examples of bacteria found were coagulase-positive staphylococcus (a drug resistent species associated with boils, hospital infections, etc.) ; pseudomonas (a green-pus forming organism of wounds and associated with blindness) ; proteus species (associated with raw, untreated, sewage polluted waters) ; streptococcus species (universally causes infections of eye, ear, nose and throat, etc.) ; E. coli (regularly associated with fecal matter) ; and others. Some counts were reported above one million per ml.—a situation fittingly expressed by one news item, "Cold water (drinking) from Hong Kong harbor."

Publicity and activities by this department and many other official agencies, by merchants and other distributors quickly blocked use of these products and cleared them from the market.

Drugs

Activities on drugs included the handling of those exposed to fires and water damage, the handling of salvaged drugs which are always suspect and destroyed, cooperating with the U. S. Food and Drug Administration in surveys and recall of drugs on the market which were found to be unfit for use or dangerous or fraudulent.

One product on the market, broadly advertised and claimed to be a cure for asthma and allergies, was embargoed generally, resulting in the cessation of the promoter's activities in this state.

A federal injunction stood against the manufacturers in Florida. Following the injunction, the firm then altered the spelling of the name using one "l" in place of the former "ll" and renewed interstate selling, but by personal transportation, avoiding all records of interstate shipment.

The product also had not cleared the "new drug" provisions of either the federal or state laws. The promoters gave the usual story—the medical profession was against the product since it would curtail their business, federal and state control agencies were in league with the doctors and big drug firms, etc. Obviously, a proven cure for asthma would meet the same welcome and worldwide acceptance as did such drugs as sulfanilamide, penicillin and polio vaccine. The manufacturers currently are under federal trial for failure to obey the injunction.

Another situation of concern was a survey of dated veterinary drugs on open sale in farm supply stores. In 22 locations in various parts of the state, 382 over-age and out-of-date items were on display for sale. The holders voluntarily agreed to disposal otherwise than for medical use and assured that adequate future attention woud be given to the situation to avoid reoccurrence.

'Odorous' Cosmetics

"Fake perfume", opined one reporter, "causes smelly situation." Thus was heralded as brazen a case of premeditated fraud as has triggered legal scurryings from state to national capitals and back to North Carolina's city dumps.

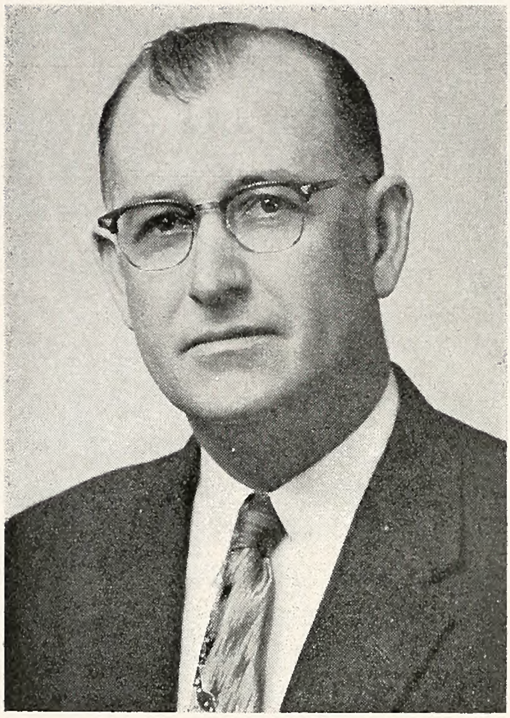
Quantities of perfume, in imitation of Chanel No. 5, with counterfeit labels and containers, appeared on the North Carolina market, mainly in the Raleigh and Charlotte areas; and, according to reports, were distributed by drivers of Cadillac cars with New York licenses. The product, being represented as distress merchandise, was sold for cash, with no bills of sale, one merchant paying $1,600 for 400 bottles, another buying at $4.00 per bottle and selling at $12.00, with some repeat lot orders. But no descriptions, identifications or record of car numbers were procured. Among the targets of the scheme were drug stores, marts, wholesalers, filling stations, homes, individual peddlers and ultimate consumers.

Proceeding under both state and federal food, drug and cosmetic laws, some 1,200 ounces of the bogus product, located in various places, were embargoed, and, upon the written concurrence by holders as to its illegal status, was destroyed by crushing with bulldozers and burying in city dumps. Police and civic organizations cooperated. Merchants repossessed lots sold by them and returned the purchase price. The culprits, doubtless in line with their original plan, have not been apprehended.

The amount of money known to have been lost, though hurtful to the individual losers, was relatively small. The critical thing, however, as in the cases of the "bonded egg" and the "watered (water and gelatin injected) dressed chicken" frauds, is that these schemes be promptly broken up.

CREDIT UNION DIVISION

W. V. DIDAWICK
Administrator



This division administers the laws and regulations governing credit unions throughout the state. Subchapter III of Chapter 54 of the General Statute places the responsibility of chartering, examining, and supervision on this division, which operates entirely on fees paid by the various credit unions, based on their assets.

Credit unions serve specific groups of people with a convenient place to accumulate their savings as well as a source of credit at a reasonable interest rate. Only about four percent of the adult population of North Carolina has access to credit union service and we know that the majority of these people deal with other financial institutions regularly. Yet credit unions have been able to do better than hold their own during this biennium, although there has been tremendous pressure by other financial institutions, especially banks, to attract individual savings. Interest rates paid on large amounts of savings by these institutions rose to the highest levels in 30 years, while credit unions averaged paying a five percent dividend on all accounts during this period. Financial publications list credit unions in the top five institutions as a place for a high return on investments.

It would be a mistake to say that this report represents the economic condition for the state as a whole for the years 1965 and 1966. On the other hand, we do believe that it portrays the economy in certain areas and industries. It is an economy that was almost fully employed and further boosted by increased United States Government expenditures. There has been a tremendous incentive to borrow now and pay later. This trend was encouraged by the continued rise in prices. It has been an economy of people willing to borrow and obligate themselves in installment credit for consumer goods, appliances, and automobies. This has been a period in which people consumed more and saved less of their earnings.

Credit union membership is made up of individuals in the high income bracket as well as those in the low bracket. They are the heads of households or main support of families and are employed full time with a steady income. About 50 percent have incomes of over $7,500, yet more than half of these families do not have as much as $500 in credit union savings. One apparent reason for this is that the majority are purchasing their homes and are faced with regular mortgage payments. Another reason is that many have children in college and are faced with the rising cost of education.

While credit unions in North Carolina have shown a 34 percent net gains in assets, we have fewer credit unions now than we had in the previous biennium. Each year there are liquidations due to better supervision and stricter enforcement of the law. Although credit unions have decreased, the membership has increased by 15 percent.

The over-all operation and financial condition of credit unions in North Carolina remains good. However, a few improperly operated credit unions continue to cause problems, not only for themselves but for the overwhelming majority which are operating properly. We continue to try to overcome these improper practices by working in close cooperation with the treasurer and other officers of the credit union. This practice has proved to be reasonably effective, but when all efforts fail, the law is enforced and the credit union closed up.

Credit unions file financial and statistical reports semi-annually with this division. The consolidated statistical report was compiled from the June 30, 1966, reports.

NUMBER, MEMBERSHIP, AND ASSETS OF STATE-CHARTERED CREDIT UNIONS

	June 30, 1964	*June 30, 1966*
Active Credit Unions	203	201
Total Members	113,333	128,686
Total Assets	$50,527,935.33	$67,430,389.80

NORTH CAROLINA CREDIT UNIONS
CONSOLIDATED BALANCE SHEET

Assets

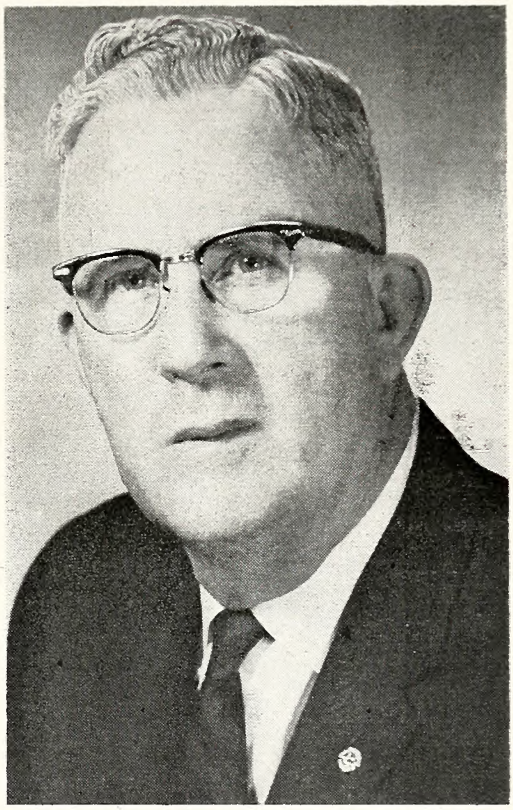
	June 30, 1964	*June 30, 1966*
Cash on Hand and in Banks	$ 2,535,572.97	$ 2,813,461.00
Loans to Members	39,111,610.64	54,207,113.54
Investments and Bonds	7,520,522.34	9,577,548.08
Other Assets	1,360,229.38	832,267.18
Totals	$50,527,935.33	$67,430,389.80

Liabilities

	June 30, 1964	*June 30, 1966*
Shares	$41,516,046.88	$55,898,916.04
Deposits	1,481,817.00	2,181,172.40
Reserves	2,857,456.96	3,539,816.07
Undivided Earnings & Surplus	2,055,988.43	3,184,204.84
Other Liabilities	2,616,626.06	2,626,280.45
Totals	$50,527,935.33	$67,430,389.80

DAIRY DIVISION

FRANCIS PATTERSON
Director



Dairying contributed more than $159 million in value to the economy of North Carolina Agriculture during 1965. The state's farmers, alone, received nearly $76 million for the dairy products they sold.

North Carolina distributors purchased from producers 1,161,889,000 pounds of Grade A milk. This exceeded record purchases in 1964 by 2.4 percent. Fluid milk and cream sales to consumers during 1965 showed 4.6 percent above 1964.

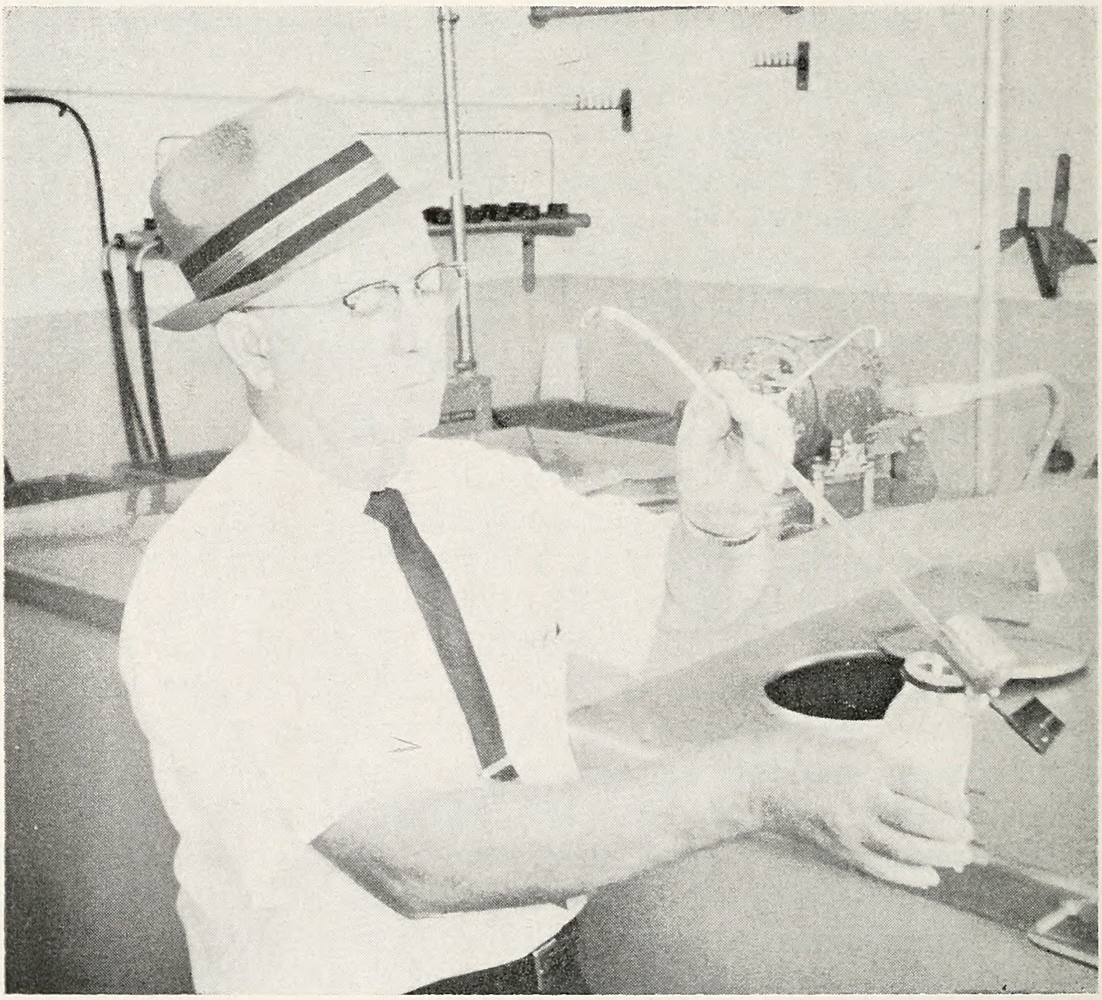
Even though the number of Grade A producers decreased 12.3 percent from 1963 to 1965, the amount of milk per producer increased 18.3 percent. During this same period sales of milk from manufacturing producers decreased 14 percent.

Manufactured dairy products in 1965 continued to have the fine quality flavor which is the key to their popularity. Improvements made by the industry have had a tremendous effect on the quality of the finished product. Flavor control devices are used to remove weedy and other off-flavors. More efficient cleaning of equipment is attained by the adoption of cleaning methods which allow the cleaning without having to disassemble the equipment during washing and sterilizing. This is true both in the manufacturing and bottling plants and on the producing farms.

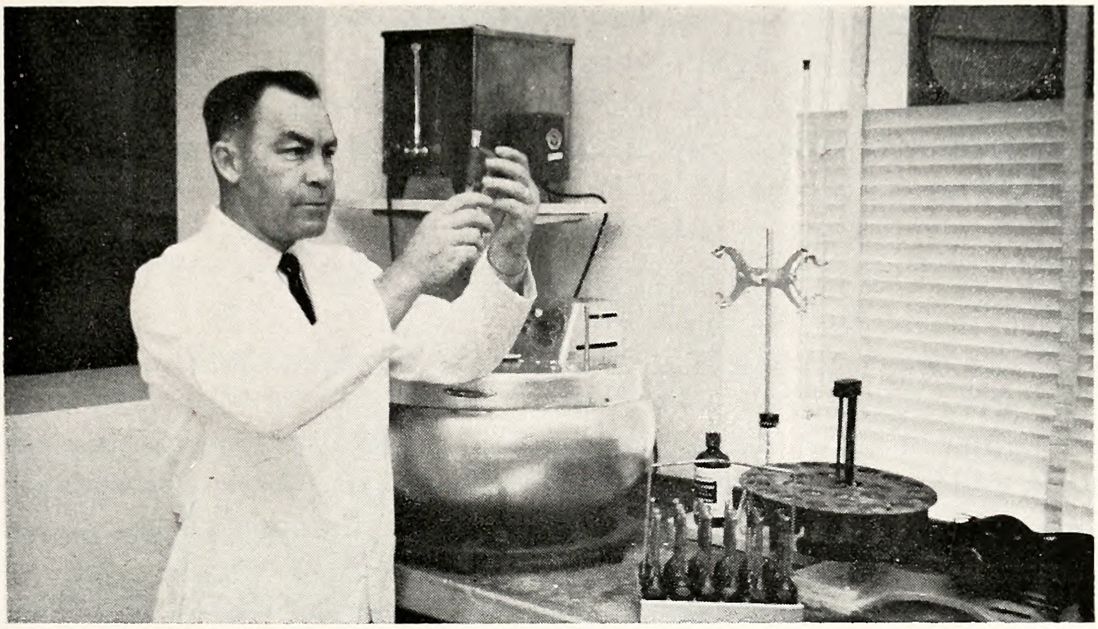
Milk products, processed in a number of different ways, offer consumers a variety of flavors in milk, cheese, ice cream, and many frozen desserts. Some milk products are fortified with a number of minerals and vitamins. Milk and ice cream are sold in a wide range of container sizes and the labeling and proportions come under the jurisdiction of this division.

Because of the importance that pesticides play in the production of our milk supply, and the necessity for protecting the health and economy of the state, during this biennium the Dairy Division Laboratory has expanded facilities and personnel to make possible the initiation of a more adequate pesticide testing program for fluid milk and dairy products. The effectiveness of this program resulted in a negligible amount of milk being withheld from the market.

The Dairy Division has the responsibility for supervising the sampling and testing of milk and cream purchased from producers on the basis of the percent of butterfat contained therein. During this biennium 46,208 check tests were made, 404 of which were foun dto be incorrect and ordered changed. This covers the sampling and testing of 235 licensed samplers and 78 testers operating in 41 laboratories located in milk plants across the state.



Licensed milk sampler collecting samples from a producer's bulk tank to be used in butterfat determination.

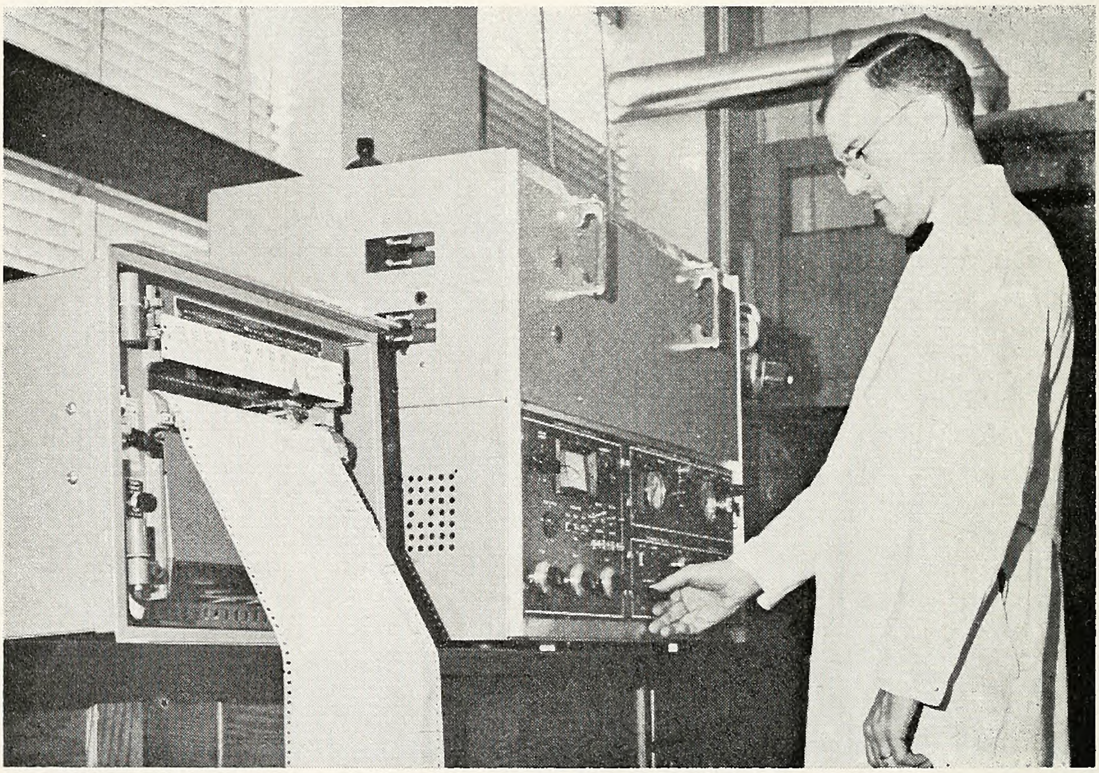


A licensed tester checks the butterfat content of milk, a vital test for the dairy farmer. The difference of one-tenth of one percent on 20,000 pounds of milk could mean as much as $120,000.

During 1965 consumers purchased more than 11,600,000 milk shakes made in dispenser milk shake machines.

One thousand five hundred and twenty-four (1,524) official visits and investigations were made at the milk plants to check on the butterfat testing. Along with this work goes other testing which is accomplished in the central laboratory and the three mobile lab units located in the milk producing areas of the state. This division continues to be alert for the adulteration of dairy products by such means as the addition of water and the improper use of pesticides and antibiotics.

Each stage of production by the 2,879 Grade A milk producers and some 3,900 producers of manufacturing milk commands the division's interest in carrying out the regulations governing the milk industry. The inspectors in the division keep surveillance over 48 milk processing plants, as well as 65 wholesale ice cream plants of which 34 are located out of the state. Inspections are made at 308 retail soft-serve ice cream plants, 27 mobile ice cream units and 345 dispenser milk shake machines. With the innovation of the dispenser milk shake machine, the making of milk shakes has been completely revolutionized. For the biennium processors sold in excess of 1,724,967 gallons of milk shake mix to be used in these machines.



Dairy chemists in the division use the latest analytical equipment to determine if suspected samples contain harmful chemical residues, even in minute quantities.

During the biennium, 297 butterfat check tests were made for the Federal Lunch Room Program. Reciprocal inspections of ice cream manufacturers are made with regulatory agents of other states as well as inspections of frozen dessert suppliers for the U. S. Public Health Service.

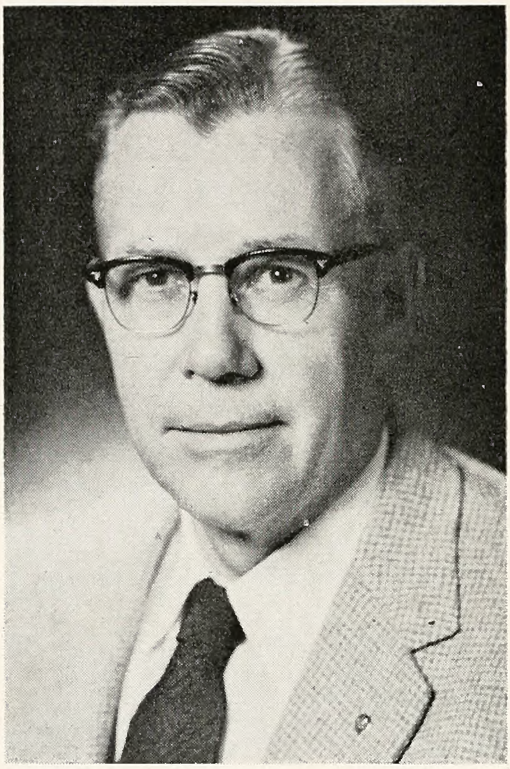
Statistical Report

Butterfat check tests	46,208
Plant investigations (butterfat check testing)	1,524
Butterfat tests for Milk Commission	1,171
Finished milk products analyzed	5,356
Ice cream and frozen dessert samples analyzed	14,045
Cryoscopic determinations	2,645
Antibiotic tests	1,521
Pesticide assays made	2,278
Milk tester's license issued	78
Milk tester's examinations given	27
Milk sampler's license issued	235
Milk sampler's examinations given	67
Ice cream and dispenser milk shake machines inspected	4,901
Ice cream plant inspections—wholesale	559
Dispenser milk shake and soft serve operations closed for noncompliance	44
Gallons of milk embargoed	12,829
Gallons of ice cream and milk embargoed	1,354

DIVISION OF ENTOMOLOGY

GEORGE D. JONES

Director



The Division of Entomology administers the State Plant Pest Law and Regulations, the Vegetable Plant Law, and the State Bee Disease Law. It is the purpose of these laws and regulations to protect not only agricultural producers, but also consumers and the public in general.

In performing its duties the division must concern itself with regulations associated with chemical control of the harmful pests which may leave residues in the soil, in water, or in the food we eat. The work of the division is divided into five main types: (1) Survey and detection of harmful plant pests which include insects, diseases, nematodes, mites, and noxious weeds, such as the witchweed, a plant parasite which has become established in our state and which is known in the world only in the Eastern Hemisphere; (2) control; (3) regulatory; (4) inspections; and (5) collection and identification.

Surveys must constantly be maintained for determining the presence and location of new, recently introduced, or dangerous plant pests. Present day food requirements in the world cannot be met without effective quarantine and control of the many plant pests. There is little doubt but that the honey bee would be lost for pollination purposes if disease control were dropped or that our state economy would soon be bankrupt if the dangerous pests were not eradicated or kept under control. North Carolina nurserymen, food processors and handlers of agricultural production from our farms and forests could not ship or move products within our state or across state lines if it were not for proper certification.

INSPECTION AND REGULATION OF PLANT PRODUCTS, ORNAMENTALS, TREES, SOIL

The movement of infested plants and soil from one location to another is one of the main means of spreading plant pests. The practice of moving nursery stock with dirt on the roots is extremely hazardous from the standpoint of transporting plant pests. Soil-borne insects and diseases can be shipped from one area to another and one infested nursery could infest a whole region in a relatively short time.

The Entomology Division cooperates with the U. S. Department of Agriculture, other states, and foreign countries in maintaining a rigid program of inspection, certification, and regulation of movement of nursery stock. Nurseries or growers of nursery stock within the state are inspected at least once annually and certified as to freedom from plant pests. A nursery dealer certificate is required of those who deal in, but do not grow, nursery stock. The dealer agrees to buy and sell only nursery stock that has been inspected and certified as being pest free by the inspection authorities of the state of origin. Fees are charged for the nursery and dealer certificates.

The nurseries and dealers for the biennium are as follows:

	1964-65	*1965-66*
Nurseries	1,036	1,069
Dealers	756	930

Making an adequate inspection of native plants collected from the wild has always presented a problem to our small staff because of the large area from which plants are collected. The division set up and maintained a nursery plant check point and inspection station in the Newland area as an added service to growers and plant shippers during 1966. This is a multi-million dollar industry. The station enabled the staff to make a thorough inspection of all native plants being shipped from the state. Plant dealers and shippers in the area and buyers in other states were well pleased with this service.

Three hundred and sixty-eight trailer loads and 479 truck loads of native nursery stock were inspected and certified by the staff of this station during the spring of 1966. A total of 284,684 plants were involved. An equal number of plants are expected to be shipped from the area in the fall of 1966. This industry exports between 550,000 and 600,000 plants a year which are valued between four and five million dollars.

Cut flowers, another million dollars industry, are grown in the mountain areas and must be inspected and certified as to freedom from pests for shipment into other states. The increased interest in these activities has caused the staff to use temporary help to meet the demands for assistance. Expansion of industries and increased populations has caused increased demands for beautification and landscaping work.

SURVEY—INSECT COLLECTION AND IDENTIFICATION

The largest single task of the staff is to survey for the various plant pests. No survey can be successful without a source of accurate identification.

The Entomology Division has in its care one of the finest insect collections in the nation. Over three million specimens representing 18,000 different kinds of insects are housed in modern up-to-date pest-proof cabinets. The collection has been built up over a period of 60 years, and it is supplied almost daily with additions. The insect identification work is an important service rendered to people over the entire state as well as an aid to the staff in administering the plant pest laws. The insect collection is an invaluable reservoir of information on insects of North Carolina, and is constantly being used by specialists throughout the state and nation.

There is close cooperation among entomologists of the U. S. National Museum, N. C. State University, and other state entomological agencies in insect identification and other data. Approximately 5,000 insect specimens per year are identified from persons from over the state. Several hundred plant disease specimens are diagnosed and numerous species of plant specimens are identified for interested persons.

Numerous insect surveys are made to keep a constant watch for new and introduced pests. Many of the pests that may enter the state through ports of entry, airways, railroads, and truck lines are studied and searched for in many areas. Through insect surveys, entomologists on the staff work closely with U. S. Department of Agriculture personnel in administering joint cooperative quarantines and regulatory work. Many insect specimens obtained through surveys are added to the collection for identification and future reference. Federal entomologists from Washington frequently have occasion to consult the collection and records. From time to time, memorial collections of insects are deposited in our care. During the past year, an insect collection of considerable size was deposited by the family of Dr. Elliott Maynard of Syracuse University, New York.

An experienced and well trained entomologist has charge of the collection to insure proper care and classification of specimens. The division maintains an insect and plant pest reference library in its laboratory section. A book entitled *Insects of North Carolina*, which lists by species and families many of the insects, spiders, mites, ticks, nematodes, and related species known to occur in our state, was published in 1938. Supplements have been published from time to time and a third one will be ready for publication soon.

HONEY AND BEE INDUSTRY

The honey bee as a pollinator is becoming increasingly important to our agricultural economy. As our modern agricultural methods eliminate the nesting sites of our wild bee pollinators, we are having to depend on the honey bee for pollination of our crops. The transportation of bees for pollination purposes has become a necessary agricultural practice. Our inspectors have been working with the vegetable, apple and blueberry growers in an effort to see that ample, disease free, colonies of bees are available for the pollination of these crops.

This biennium has been hard on the honey producers, as late spring freezes and other conditions have caused a short honey crop. Our inspectors have been called on to diagnose the cause of death of an increased number of colonies that starved due to lack of food or other factors.

The division employs two competent seasonal inspectors who inspect for, and aid in, the control of several destructive and contagious bee diseases. One of these inspectors is assigned to eastern North Carolina and the other to western North Carolina. The most serious bee disease is a bacterial disease called American Foulbrood. The number of colonies inspected and the amount of American Foulbrood found and controlled is as follows:

	1964-65	*1965-66*
Colonies inspected	11,310	12,554
Colonies with American Foulbrood	322	166
Percent American Foulbrood	2.8%	1.3%

All states and countries have regulations governing the movement of honey bees in order to control bee diseases. The division provides an inspection and certification service for those who wish to move bees into other states that require inspection certificates, and for those who sell queen and package bees. The division works with beekeepers through their organizations and in fairs.

EXPORT AND IMPORT INSPECTIONS

The division has issued phytosanitary (pest-free) certificates on a variety of plant materials for export ranging from seed to leaf tobacco. Our staff members cooperate with the USDA Plant Quarantine Division in inspecting and surveying for foreign pests at ports of entry. Surveys are currently being conducted for a destructive drywood termite (*Cryptotermes formosana*) that has been introduced into some port cities in Texas and Louisiana from the Orient.

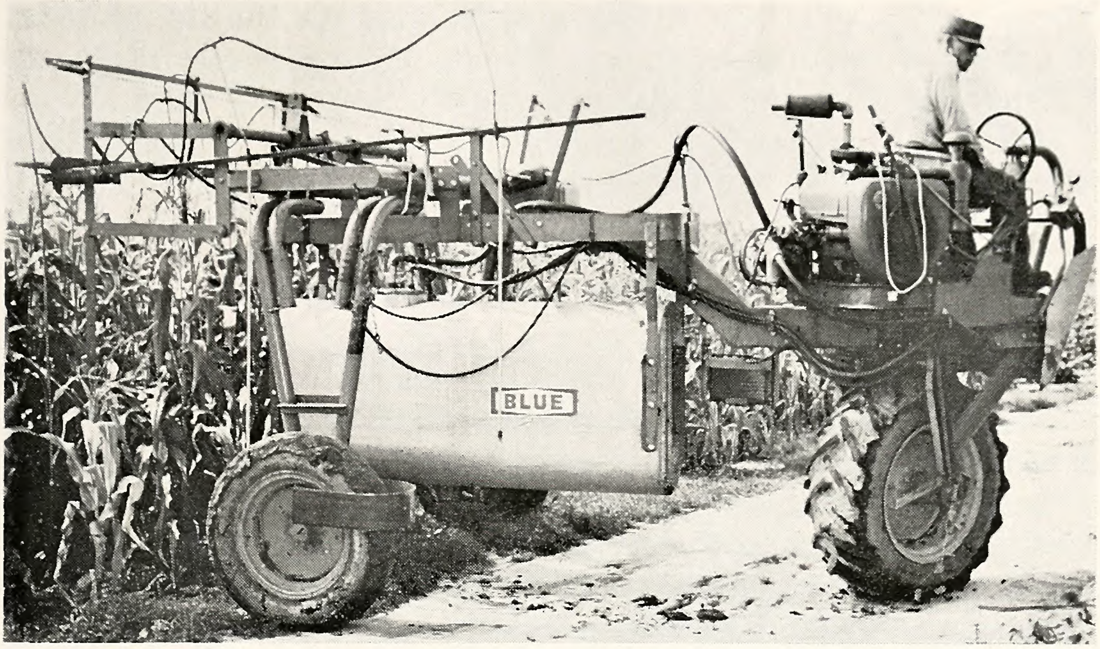
The division is consulted before any plant material, insects, or disease organisms for research purposes, are permitted entry into North Carolina. The division keeps surveillance over any imported material to see that no serious pest has been introduced. The division makes periodic inspections of plant materials that have been imported under Postentry Quarantine for two years after importation.

WITCHWEED

(*Striga lutea*)

The first discovery of witchweed in the western hemisphere way in Columbus County, North Carolina in 1956. This pest now occurs in 24 counties in the state. The USDA Plant Pest Control Division spends over $3,000,000 annually in an attempt to control and confine this pest to its present location. The Entomology Division cooperates with the USDA in this program, particularly in regulating the intra-state movement of regulated articles, such as plants, soil, equipment, etc.

Surveys reveal no significant spread of this pest during the biennium. Isolated infestations on the outer fringe of the witch-



A high-boy sprayer unit, with nozzle adjusted to spray directly in the middle, applies 2,4-D herbicide for witchweed control.

weed area are being eradicated with methyl bromide fumigation (brozone). The 2-4-D herbicide program has been continued and has been very effective in preventing the production of witchweed seed.

IMPORTED FIRE ANT

(*Solenopsis saevissima richteri*—Forel)

The imported fire ant first entered this country in the vicinity of Mobile, Alabama around 1918. It became established and slowly spread until by 1937 it was recognized as a vicious pest of farmlands, pastures, residential areas, and wildlife areas, where its sting was a menace to people, livestock, and wildlife. It reached North Carolina in 1952.

All known mounds in the state have been treated with pesticide as discovered. Infestations in Mecklenburg, Cumberland, and Robeson Counties are believed to have been eradicated prior to this biennium. During the 1964-65 season, 57,257 acres were treated with two applications of 0.3% Mirex bait at the rate of 2.5 pounds per acre for each application. Mirex bait is a specific poison that is highly attractive to the imported fire ant and is harmless to other forms of life. In 1966 the first application of Mirex was made on 240,000 acres in Carteret, Craven, Onslow, Pamlico, and Brunswick Counties as part of an ambitious cooperative effort between nine Southeastern States and the USDA Plant Pest Control Division to eradicate the imported fire ant.

The second application of Mirex is planned for the fall of 1966. The State of North Carolina has allocated approximately $100,000 for this project which is matched equally by federal funds.

It will be necessary to conduct surveys for this pest so any future infestations can be promptly detected and eradicated.

WHITE-FRINGED BEETLE

(*Graphognathus leucoloma*)

The white-fringed beetle is considered to be an extremely dangerous plant pest. It was introduced into the U. S. from South America and now infests parts of 11 Southeastern States. It was first discovered in North Carolina in 1942 and has been found on 84,539 acres in 40 counties through 1965. All known infestations in 32 counties have been treated with a soil application of granular dieldrin. All infestations in the remaining eight counties are under close observation and are being treated as rapidly as possible to prevent spread.

This program is carried out in cooperation with the USDA Plant Pest Control Division. There are some 40,098 untreated acres of infestation in North Carolina.

JAPANESE BEETLE

(*Popilla japonica* Mewm)

The Japanese beetle was first found in North Carolina in 1932 and has gradually spread over the state until all counties were found infested and our state quarantine was repealed May 30, 1962. The division no longer regulates within the state movement of articles such as soil, sod, plants with roots, and uncured bulbs, but cooperates with the USDA Plant Pest Control Division in seeing that our citizens move articles regulated under the federal interstate Japanese beetle quarantine with a minimum of inconvenience.

The division cooperates in inspecting and certifying nurseries as free of Japanese beetle, supervising the treatment of infested nurseries or plants from infested nurseries with approved pesticides, and provides inspectors to man bean and cabbage inspection and fumigation stations at Asheville, Boone, Hendersonville, and West Jefferson to certify freedom of the pest on materials moving into uninfested areas.

NEMATOLOGY

The Entomology Division's first work with nematodes began about 1915 when the movement of fruit tree stock was regulated to prevent the spread of root knot nematodes (*Meloidogyne* species). A survey of nematodes in North Carolina nurseries is now in progress. In 1966, fifteen genera of plant parasitic nematodes were recovered from 16 types of ornamental plants. A new species of *Heterodera* (cyst forming nematode) has been recovered in Perquimans and Gates Counties. This species appears to be closely related to the Osborne nematode which is considered in some areas as a serious pest of tobacco. We plan to study this nematode to see if it is a threat to our tobacco industry. Also the staff will cooperate in making regular surveys for the golden nematode on potatoes. This cyst nematode is a major pest in Europe and is known to be present in Canada and Long Island, N. Y.

SOYBEAN CYST NEMATODE

(*Heterodera glycines* Icainoke)

The soybean cyst nematode was first discovered in the western hemisphere in 1954 at Castle Hayne, N. C. It was subsequently found along the Mississippi river near Memphis, Tennessee and Eastern Shore Virginia. It is now found in twelve counties in North Carolina: Brunswick, Camden, Currituck, Gates, Johnston, New Hanover, Pasquotank, Perquimans, Pender, and Tyrrell with Sampson and Wayne being added in 1965. The infestation is on 327 properties comprising some 12,071 acres.

Plant breeders are developing varieties of soybeans that are resistant to this pest. The Pickett variety shows promise and is now being evaluated jointly with USDA and N. C. State University officials. There are several strains of soybean cyst nematode, each causing different rates of damage and differing in tendency to attack resistant soybeans. It appears that it will be several years before we can safely phase out our quarantines in favor of resistant soybeans.

The Entomology Division cooperates with the USDA Plant Pest Control Division in surveying for and regulating the movement of articles under the soybean cyst nematode quarantine.

NARCISSUS EELWORM
(*Ditylenchus dipsaci* Kurhn)

The Narcissus Bulb Fly and Eelworm quarantine was adopted in 1941. The narcissus bulb fly has not survived in our climate. Our narcissus flower industry is dependent on freedom from the narcissus eelworm as it will destroy plantings of narcissus.

Ten growers in 1965 and nine growers in 1966 were inspected and certified as to freedom from this nematode.

VEGETABLE PLANT INSPECTION

The Vegetable Plant Law was enacted in March, 1959. At that time, serious diseases such as bacterial spot of peppers, pink root of onions, and nematodes were common on vegetable plants imported from other states for sale in North Carolina. Many commercial vegetable growers still are largely dependent on imported transplants. The Vegetable Plant Law has been instrumental in improving the quality of vegetable transplants imported and has prompted many of our growers to grow their own transplants. The threat to our commercial vegetable crops by imported diseases has been greatly reduced.

The following number of plants were inspected and passed for sale in North Carolina during the biennium:

	1964-65	*1965-66*
Cabbage	5,282 ,000	5,883,000
Tomatoes	2,894,000	3,430,000
Peppers	423,500	385,000
Onion sets (bags)	3,339	1,125
Onion plants	1,496,000	914,000
Sweet potatoes	58,900	444,000
Eggplants	32,000	———

PEANUT STUNT VIRUS

A virus, believed to be seed transmitted and spread by aphids, has been noticed in a few North Carolina peanut fields for the past two crop seasons. The virus causes severe stunting of peanut plants, cutting quality of the peanuts, and may seriously reduce production.

Early in 1966, Georgia and Alabama placed embargos on our seed peanuts, and Florida placed a quarantine on the movement of any except certified seed.

Because several states are regulating the disease, and because it is apparently a new disease to North Carolina, the Entomology Division is cooperating with the Seed Laboratory and the N. C. State University Research and Extension workers in making a random survey to determine the distribution and economic losses caused by the disease. The division is also cooperating with the research scientists to learn as much as possible about the spread, its probable host range, and its control in an effort to develop methods of preventing its spread in our state as well as to other areas. The division is cooperating with the Crop Improvement Association and the Seed Laboratory in an effort to determine if any peanut seed can be certified as free of the virus.

FOREST AND SHADE TREE PESTS

The Entomology Division is responsible for regulating the movement of serious pests of forest, shade and ornamental trees. The white pine blister rust quarantine has been enforced by regulating the movement of currant and gooseberry plants into North Carolina. Currant and gooseberry plants are alternate hosts of the blister rust. White pines that are moved as living trees are inspected and certified as free from this disease.

There is a growing Christmas tree industry in North Carolina. One of the favorite Christmas trees is the true fir (*Abies* spp.). The balsam wooly aphid (*Chermes piceae* Patz) is a serious pest of firs in the mountains of North Carolina and is known to be killing old stands in five areas. It threatens our native Fraser fir with extinction. We are working with our nurserymen and Christmas tree growers in an effort to help them grow firs that are free of this pest and which can be certified.

The Dutch elm disease (*Ceratocystis ulmi* Buisman) is present in North Carolina. There is no practical way of preventing the spread of this pest through quarantine methods. The gypsy moth and oak wilt disease are two pests of trees for which division inspectors must inspect and survey.

PESTS IN OTHER AND NEARBY STATES

Several insects of world wide distribution and importance are in the Continental United States but are not yet in North Carolina. Some of these are the cereal leaf beetle, sweet potato weevil, Khapra beetle, pink boll of cotton, European chafer, and the Mediterranean fruit fly. The division keeps a constant surveillance for these pests and keeps up to date on progress made by cooperating USDA officials and the specific state agencies in the infested states in controlling and quarantining these pests.

APPRECIATION

Plant pest control work is of such a nature that cooperation from people in many areas of activity are essential to the success of the program. The division acknowledges and expresses appreciation for the help and cooperation given by the other divisions in this Department. The Extension Service, research workers and staff at N. C. State University have given fine cooperation in our efforts to control plant pests.

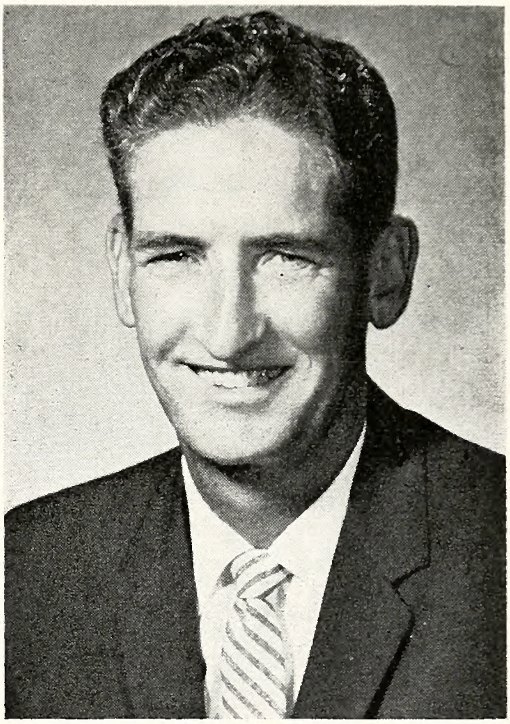
The USDA Plant Pest Control Division and the Plant Quarantine Division have provided cooperative services that are worth millions of dollars to the State of North Carolina.

Public acceptance and cooperation in our efforts to control plant pests has always been at a high level. The progressive attitude of the administration, the cooperation of news media through the guidance of the Publications Division, and public understanding of the need for pest control, has made it possible for our pest control efforts to be a success.

FARMERS MARKET

Charles G. Murray

Market Manager



"RALEIGH FARMERS MARKET—DEDICATED TO THE FARMERS OF NORTH CAROLINA AND THE PRODUCE INDUSTRY OF THE UNITED STATES. FOR THE PURPOSE OF CUTTING HANDLING COST FROM PRODUCER TO CONSUMER.

September 23, 1955"

To construct, maintain and operate a wholesale and retail agricultural produce market was the main objective of the incorporators of Raleigh Farmers Market, Inc. After this purpose was successfully completed, the Market was sold to the North Carolina Department of Agriculture in July, 1961, as a self-supporting facility, and the name was changed to State Farmers Market. Eleven years of service to the farmers of North Carolina and to the produce industry of the United States have established it as a vital part of our state's agricultural story.

Many improvements in the physical plant have occurred during the past biennium. The entire Market was painted, a new drainage system was installed, paving and roofing were improved, a "welcome" sign was erected and 15 retail tables were built. The tables have proved to be beneficial to the farmers as they are able to arrange their fruits and vegetables more attractively and conveniently, thus catching the eye of the consumer. The addition of these retail tables plus the eagerness of the consumer to buy fresh fruits and vegetables has more than doubled the number of consumers buying on the Market. Every facility on the Market is rented and the gate receipts have increased 45 percent during this biennium, which is a Market record.

In order to improve the beauty of the Market, 50 crepe myrtle trees were planted in honor of Dr. Clarence Poe, long-time editor of the Progressive Farmer. These trees are a living shrine to one of the South's greatest agricultural leaders.

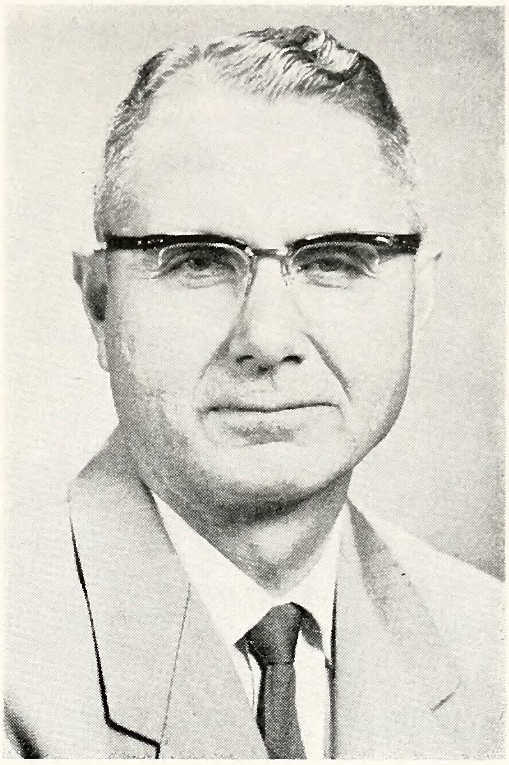
Although this biennium has given us the most prolonged rainy season and then a prolonged drought season, the Market has done more business, and faster and more efficiently. The number of daily sellers has reached a record of 12,646 farmers and truckers for the year 1965-66 who made use of the facilities offered them. More farmers from all sections of the state are realizing the value of bringing their produce to a centralized market place.

From the standpoint of production of fruits and vegetables all over the United States, the family-type farmers are in a very good position. The farmers will use the Market if they are able to sell their produce at a fair price.

The popularity of the State Farmers Market increases as it strives to provide the consumer with fruits and vegetables faster and fresher.

FOOD DISTRIBUTION DIVISION

JAY P. DAVIS
Director



During this biennium, the quantity of food distributed by the Food Distribution Division reached a record high of 148,142,248 pounds having a value of $41,570,509. Nearly one-fourth of the population of the entire state (approximately 1,105,560 people) benefited by receiving food directly or in the form of meals provided by schools, institutions, or other eligible agencies.

The Food Distribution Division, which is the state distributing agency for North Carolina, is responsible for requisitioning, storing, and transporting within the state, use, and distributing food to eligible recipients. The U. S. Department of Agriculture acquires the food under its various price support and school lunch program. The foods are then made available to the state through the state distributing agency.

This division is responsible for developing and implementing the policies, procedures, and regulations covering the operation of the food distribution program within the state. Such regulations and policies must, of course, be within the framework of general overall policies specified by federal law and regulations.

The school lunchrooms throughout the state are the major recipients of donated foods. Most of these foods are shipped directly from the point of origin to strategic points throughout the state. From these points, distribution is made directly from the freight car door or truck to the various boards of education in the immediate and surrounding area. This procedure eliminates the need for costly warehousing and transportation facilities. The boards of education normally send school trucks to the unloading point and transport the food directly to the school lunchrooms in the respective units.

The division maintains state-owned warehouses at Butner and a leased warehouse at Salisbury. Additional storage space at other points throughout the state is used when required. Large quantities of foods are received at these warehouses where it is stored for later distribution to recipient agencies.

The future will doubtless see additional quantities of concentrated and frozen foods being purchased and moving into the food distribution program. With this in mind, we have made arrangements for enlarged cold storage and freezer facilities as well as dry storage at our state warehouses.

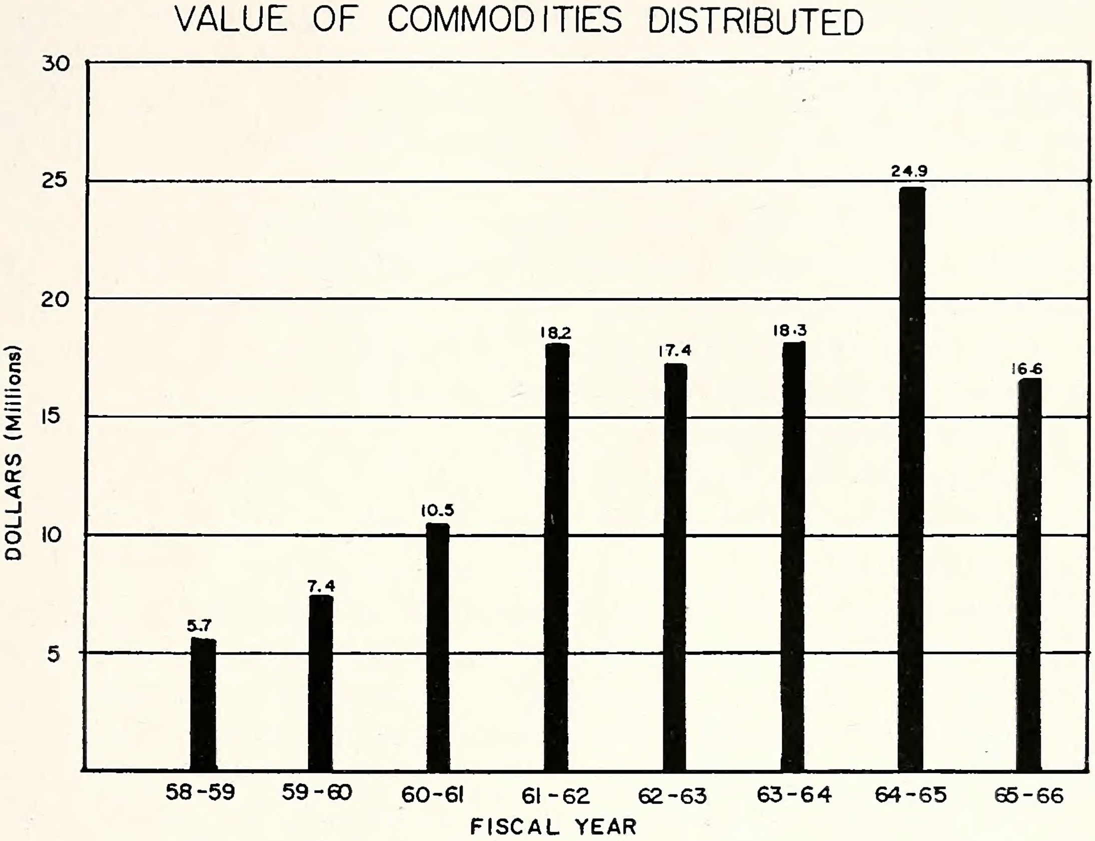
The distribution of food to needy families also represents a very large portion of the food distribution program. The majority of food distributed to needy families moves through the state warehouses to county warehouses for distribution to individual families. Emergency shipments and reserve supplies of foods for school lunchrooms are also handled through the state warehouses.

The recipient groups eligible to participate in the food distribution program are as follows: (1) Non-profit school lunchrooms serving meals to children of high school grade or under, (2) charitable institutions, (3) summer camps operating a non-profit feeding program for children of high school grade or under, (4) needy families, and (5) disaster and emergency relief.

The following statement gives a brief look at the operation of the program for each of these groups.

(1) SCHOOL LUNCHROOMS—Because of the very large number of school children served meals—825,000 daily—this group represents one of the major users of the donated foods acquired by the U. S. Department of Agriculture under the price support and surplus removal program. Since purchases of perishable foods under price support and surplus removal programs can be made only where a definite outlet is available, school lunchrooms represent a very important and integral part of such programs.

The school lunchrooms benefit in that a supply of wholesome, nutritious, high quality food is made available in the lunchrooms. Foods are also purchased under the National School Lunch Program for distribution to lunchrooms. These foods are selected not for price support reasons but to assist the lunchrooms in providing adequate, low-cost meals for the school children. By using the donated foods, the school lunchrooms are able to serve lunches to children at a very reasonable charge of twenty to thirty cents for a well-balanced, attractive lunch.



Such lunches to meet standard requirements must consist of two ounces of meat or protein substitute, three-fourths of a cup of vegetables, or fruit and vegetable, one-half pint of whole milk, bread and butter or fortified margarine. In addition, schools usually serve, more or less regularly, a salad and/or dessert. Those children who are unable to pay the full cost of the meal may receive either a free meal or a meal at a reduced charge. Nowhere else are government funds used to better advantage by more recipients than in the school lunch program.

Our farmers, processors, and dealers also have a very major part in this market in that the lunchrooms purchase locally approximately 29 million dollars worth of food each year.

Costs of distribution of foods donated by the U. S. Department of Agricuture are held to a minimum through the cooperation of the county and city superintendents of schools who act as agents of the Food Distribution Division in receiving, unloading, and distributing commodities in their area. With the help of these persons, we can ship the carlots of food directly to stretegic points throughout the state and thus save on warehousing and transportation.

(2) CHARITABLE INSTITUTIONS—The 168 charitable institutions participating in the distribution of USDA donated commodities serve meals to approximately 25,783 persons daily. Included in this recipient group are the state mental hospitals, orphanages, county homes, state sanatoriums, and child care centers. Also included are the non-profit hospitals who may participate in the program based on the number of part-paying or non-paying patients served. The use of donated commodities enables the institutions to serve higher quality meals to patents and inmates than would be possible otherwise. One of the requirements for participation in the program is that the institution not reduce its food budget because of the receipt of commodities nor use donated commodities in substitution for foods normally purchased.

The larger institutions with adequate storerooms or warehouses are able to take care of a substantial quantity of food; thus, we combine their shipments with the school shipments so as to eliminate state warehousing and transportation costs wherever possible.

The smaller institutions, which range in size from a very few persons up to approximately 500, receive their food directly from county warehouses which are operated by the Board of County Commissioners for the distribution of food to needy families. This method of distribution enables the smaller institutions to receive their food from a nearby point at a minimum cost in transportation and warehousing. This is a considerable asset to the smaller institutions since the state receives food from the U. S. Department of Agriculture in solid carlots of a single commodity. By using the county warehouses, the smaller institutions are able to pick up the full range of foods at one time at a single point.

Head Start—One activity of considerable size and importance which has developed within the past biennium is that of the child development centers (sometimes referred to as Head Start Programs). Special efforts were made by the division to make food supplies available to these groups so that nutritionally adequate meals could be served in these training centers. During each year of the biennium, approximately 27,597 children in 584 centers received meals prepared with USDA donated foods as well as foods purchased locally.

(3) SUMMER CAMPS—Most of our summer camps are operated by religious organizations, state agencies, and civic groups. Such camps include the 4-H camps, FFA camps, Boy Scout and Girl Scout camps, church denominational camps, and others. To be eligible, the camp must be operating a non-profit food service and serving nutritionally adequate meals to boys and girls of high school grade or under. We make special efforts to supply donated foods to summer camps at the time and in the quantities needed, as we feel that this a very rewarding endeavor. Some of the camps operate for only one or two weeks while others may extend their operation over a period of up to three months. Approximately 89,000 boys and girls in the camps participated in the food distribution program during each of the past two years.

(4) NEEDY FAMILIES—The distribution of food to needy families is a cooperative effort of the Food Distribution Division, the boards of county commissioners, and the state and county welfare departments. The Food Distribution Division has over-all supervision of the program in the state. It establishes policies, procedures, regulations within the framework of federal regulations, publishes handbooks, and disseminates nutritional and other types of information to the cooperating agencies.

In order for this phase of the program to be in operation for any given county, the county Board of Commissioners must elect to initiate the program and to share in the responsibility and costs of the distribution of food in the county. Boards of County Commissioners must provide adequate warehouse facilities and personnel for receiving and distributing the food to recipient families.

The county Board of Public Welfare, operating under a memorandum of understanding between the North Carolina Department of Agriculture and the State Board of Public Welfare, receive applications from families and determine their eligibility.

The state, through the Food Distribution Division, pays for the state warehousing and transportation of food needed for distribution to needy families. This food is transported from one of the state warehouses to the county warehouses. Where practical, shipments of some commodities are moved directly from the vendor to the larger counties. The amount of food distributed to families is based on a per capita rate of distribution; thus, the quantity of food varies directly with the number of persons in the family. The value of food distributed to needy families has varied from time to time but has an average value of $28 monthly for a family of five.

In addition to paying for the state warehousing and transportation, the General Assembly has also provided funds which are distributed monthly by the Food Distribution Division to the Boards of County Commsisioners to help defray the costs of warehousing facilities and personnel used for distribution of food at the county level. Generally, this state contribution represents approximately one-half of the county level costs of food distribution.

Eligibility of families to participate in the program is based on income. The income exclusion scale used in determining family eligibility begins at $85 per month for a family of one person and progresses to a permitted income of $215 per month for a family of 10 persons. If a family has an income of less than the amount shown on the income exclusion scale, they can be certified to receive donated foods. Of course, other resources which the family may have are also taken into consideration in making the eligibility determination.

Two types of families are eligible for participation in the program—those families receiving public assistance payments, and other families having an income of less than the amount shown on the income exclusion scale. Included in this latter group are low-income families, particularly day laborers, part-time workers, and other persons engaged in low-paying or part-time work. Seasonal workers, such as those working in the lumbering and pulpwood cutting industries, are very often included in the low-income group.

(5) DISASTER AND EMERGENCY—The Food Distribution Division has a major responsibility during disasters resulting from flood, fire, freeze, earthquake, tornado, hurricane, landslide, explosion, or other causes. Victims of such disasters have first priority in the use of USDA donated foods. The division makes every effort to meet their food needs promptly. No official declaration of disaster is required—need is the primary factor in making these foods available for disaster feeding.

We never know where or when disaster may strike. Since preparedness is the key to well-coordinated and executed food distribution operations, we have a standing operating procedure for the use of our participating agencies, such as school lunchrooms, institutions, and etc., for serving meals to disaster victims using USDA donated foods. The food commodities are available from any one or a combination of sources, depending upon the nature and extent (both as to time and area) of the disaster and the types of programs operating in or near the affected areas.

Foods can be made available from school lunchrooms, institution lunchrooms, county warehouse depots and the state warehouses. Any commodities donated by the U. S. Department of Agriculture designated for schools or other eligible groups are used for disaster feeding purposes. Arrangements for replacing commodities used during emergency or disaster periods are made with the district office of the U. S. Department of Agriculture.

The Food Distribution Division is responsible for supplying USDA donated commodities for use of mass feeding of evacuees or to other persons affected by a disaster for the duration of the emergency. Public school sites are most frequently used as evacuation centers, and their lunchroom facilities for mass feeding operations. If necessary, we can release certain commodities to any of several approved disaster organizations such as the Red Cross.

When families are able to return to their homes to re-establish themselves, commodities are made available through the family distribution program to take care of their needs until commercial supply channels can be reopened. If the families continue to be in economic need, they may be able to receive USDA donated food for a post-emergency period of up to 90 days. If the disaster is of such proportion as to cause a large number of families to be without adequate resources for providing for their food supplies, a regular family distribution program may be established to take care of their needs for an indefinite period. If this is done, then the needy persons must, of course, meet the regular standard of eligibility under the food for needy families program.

During this biennium, we have conducted several small disaster feeding operations resulting from floods. In previous years, we have carried out large scale disaster programs where hurricanes and tornados had caused severe damage and dislocation. While our state has been fortunate in that we have had only minor disasters in recent years, this division stands ready to meet the food needs of our people should such emergencies arise.

To assist the recipient agencies in carrying out their responsibilities for proper conduct of the program, the personnel of the division make periodical supervisory visits to the various agencies. Oral and written suggestions are given for improvements in storage, supervision, record-keeping, and utilization of commodities. Periodically, audits and checks are made of records to assure completeness and accuracy.

STATISTICAL SUMMARY—Since we have many inquiries from national, state, and county agencies and individuals interested in knowing the extent of food distribution activities within a given county or area, we are including a statistical summary. This summary shows the value of commodities broken down by the types of recipient agencies for each of the counties in the state. At the end of the summary is a short table giving the same information on a state-wide basis.

PLANS FOR FUTURE—There has been a very important change within recent months in the aims and goals of the food distribution program. The policy as directed by U. S. Congress and the federal administration is shifting from the use of the food distribution program as a means of disposing of foods acquired under farm price support and surplus removal to one of meeting the nutritional need of large segments of our population. With the possibly smaller stocks of food passing into government inventory under the farm aid program, there is a growing awareness of the need for supplying wholesome, nutritious food to improve and maintain the health of our citizens.

We, in the food distribution division are therefore planning to gear our operating procedures, policies, and actions to help achieve the goal of better nutrition throughout the state by supplying adequate foods. Special emphasis will be directed toward meeting the needs of our school children, both in the school lunchrooms and at home. Needy aged people as well as school children and pre-school children will receive donated foods to help them maintain adequate diets to protect their health and to build strong bodies and minds.

Summary of USDA Donated Commodities Distributed

1964-66 Biennium

Recipient Agency	*No. of Agencies*		*No. of Persons Served*		*Commodities Distributed*	
	1964-65	1965-66	1964-65	1965-66	Quantity (lbs.)	Value**
Schools	2,072	2,200	731,750	828,898	71,696,147	$19,874,257
Institutions	144	168	25,122	25,783		
Child Development Centers	742	426	25,088	30,106	5,893,194	939,545
Needy Families	62	68	197,214*	190,777*	70,125,937	20,665,064
Summer Camps	137	137	89,002	76,429	362,376	74,351
Disaster Relief	3	—	2,909	—	64,594	17,909
Totals	3,160	2,999	1,071,085	1,151,993	148,142,248	$41,571,126

*Participation Figures are For March, 1965 and March 1966

**Wholesale Except for Needy Families Where Retail Value Is Used.

Value of USDA Donated Commodities Distributed

1964-66 Biennium

County	*Schools*	*Charitable Institutions**	*Needy Families***	*Total*
Alamance	$ 438,912	$ 5,878	$ 374,846	$ 819,636
Alexander	69,250	265	105,659	175,174
Alleghany	38,592	2,552	63,003	104,147
Anson	99,981	556	145,318	245,855
Ashe	109,387	1,895	188,378	299,660
Avery	70,831	5,559	285,556	361,946
Beaufort	144,095	2,353	367,961	514,409
Bertie	88,691	2,236	—	90,927
Bladen	149,349	2,775	—	152,124
Brunswick	71,233	302	288,972	360,507
Buncombe	669,914	42,542	—	712,456
Burke	261,492	114,914	174,975	551,381
Cabarrus	328,233	14,225	222,741	565,199
Caldwell	254,490	5,165	157,993	417,648
Camden	26,245	116	89,498	115,859
Carteret	123,354	1,259	157,480	282,093
Caswell	65,622	676	—	66,298
Catawba	395,355	1,455	—	396,810
Chatham	170,886	—	—	170,886
Cherokee	69,901	711	232,074	302,686
Chowan	54,778	—	—	54,778
Clay	28,579	242	110,938	139,759
Cleveland	341,355	3,034	—	344,389
Columbus	245,578	8,138	465,182	718,898
Craven	190,954	893	590,544	782,391
Cumberland	631,459	7,526	868,706	1,507,691
Currituck	30,437	960	—	31,397
Dare	23,998	1,102	—	25,100
Davidson	383,610	10,684	231,654	625,948
Davie	83,266	126	15,716	99,108
Duplin	184,993	1,939	—	186,932
Durham	535,818	22,758	—	558,576
Edgecombe	139,435	453	266,323	406,211
Forsyth	624,830	26,912	—	651,742
Franklin	71,944	81	—	72,025
Gaston	641,273	8,683	684,221	1,334,177
Gates	42,997	839	38,025	81,861
Graham	44,142	277	136,162	180,581

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*Includes Summer Camps and Child Development Centers

**Includes Disaster Relief

County	*Schools*	*Charitable Institutions**	*Needy Families***	*Total*
Granville	130,457	94,908	37,082	262,447
Greene	75,345	248	438,164	513,757
Guilford	733,258	18,548	937,277	1,689,083
Halifax	126,265	1,759	—	128,024
Harnett	230,109	1,868	86,842	318,819
Haywood	197,515	1,592	—	199,107
Henderson	183,157	7,954	17,843	208,954
Hertford	72,295	134	88,178	160,607
Hoke	77,267	27,413	197,358	302,038
Hyde	19,507	—	197,262	216,769
Iredell	288,266	2,066	—	290,332
Jackson	83,561	1,428	37,015	122,004
Johnston	313,871	2,066	168,348	484,285
Jones	51,613	—	208,277	259,890
Lee	147,903	766	—	148,669
Lenoir	214,583	71,717	427,903	714,203
Lincoln	124,949	—	—	124,949
Macon	70,232	900	235,615	306,747
Madison	62,436	847	337,886	401,169
Martin	125,770	2,945	—	128,715
McDowell	142,197	1,743	98,284	242,224
Mecklenburg	1,195,190	27,342	1,890,715	3,113,247
Mitchell	77,784	564	180,705	259,053
Montgomery	102,630	—	154,365	256,995
Moore	162,842	12,325	—	175,167
Nash	234,391	7,624	—	242,015
New Hanover	202,257	5,909	610,070	818,236
Northampton	89,759	1,482	131,070	222,311
Onslow	267,210	2,608	394,619	664,437
Orange	185,689	16,794	208,513	410,996
Pamlico	35,492	1,217	83,073	119,782
Pasquotank	105,664	978	192,674	299,316
Pender	67,763	987	—	68,750
Perquimans	39,084	483	163,514	203,081
Person	111,558	—	—	111,558
Pitt	189,017	1,996	382,363	573,376
Polk	49,525	3,118	—	52,643
Randolph	296,026	454	—	296,480
Richmond	175,942	22,569	182,760	381,271
Robeson	401,766	9,594	995,975	1,407,335
Rockingham	319,994	2,855	60,520	383,369
Rowan	368,574	3,850	286,156	658,580
Rutherford	244,229	4,311	187,220	435,760

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*Includes Summer Camps and Child Development Centers

**Includes Disaster Relief

County	*Schools*	*Charitable Institutions**	*Needy Families***	*Total*
Sampson	298,999	4,787	—	303,786
Scotland	159,918	2,790	296,519	459,227
Stanly	214,350	1,323	—	215,673
Stokes	99,574	4,053	—	103,627
Surry	270,331	2,297	128,082	400,710
Swain	35,554	508	15,775	51,837
Transylvania	81,432	6,872	89,182	177,486
Tyrrell	20,582	111	162,607	183,300
Union	215,425	2,154	—	217,579
Vance	134,893	1,295	446,583	582,771
Wake	752,047	90,766	947,488	1,790,301
Warren	86,100	1,410	195,886	283,396
Washington	73,470	444	236,842	310,756
Watauga	79,164	2,903	218,042	300,109
Wayne	368,746	217,955	689,395	1,276,096
Wilkes	225,041	1,772	382,268	609,081
Wilson	222,369	10,473	587,826	820,668
Yadkin	124,649	—	106,946	231,595
Yancey	67,958	1,394	299,961	369,313
Totals	$19,868,803	$1,019,350	$20,682,973	$41,571,126

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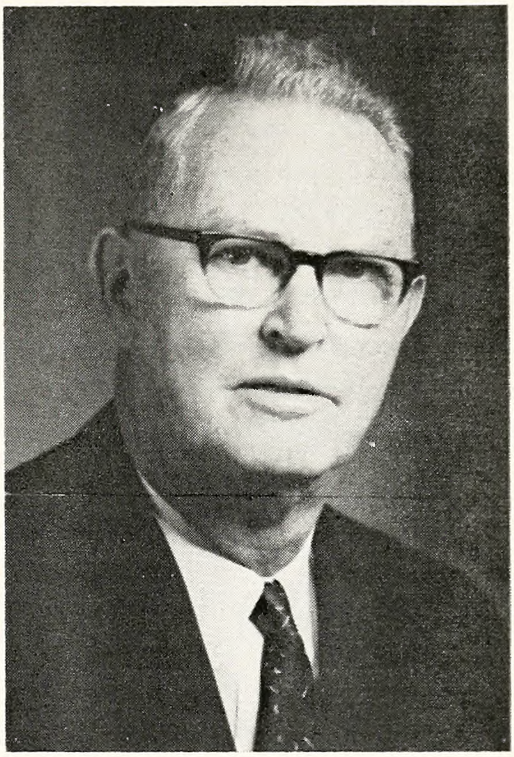
*Includes Summer Camps and Child Development Centers

**Includes Disaster Relief

DIVISION OF MARKETS

JOHN A. WINFIELD

Director



Marketing has indeed become a space age process. It is a complicated, fast moving, ever changing, continuous process. It goes on day and night—never ceasing. It is a battle—a friendly battle—between buyer and seller. Simply stated, it is nothing more than taking what the producer has and from that providing what the consumer wants. Realistically speaking, however, it involves much more. Maturity or finish of the product, grading, sizing, processing, packaging, pricing, transporting, and merchandising are but a few of the intricate steps through which products must move in an orderly marketing system. Coupled with these is the all important matter of consumer demand and trying to meet this demand at the lowest possible cost yet assuring the producer a fair return for his efforts.

These are the problem sources. These are the places that must be watched and where problems must be prevented rather than corrected if agricultural products are to move to market in an orderly manner. These are the places, too, where personnel of the Division of Markets maintains a close watch and strives to assist all segments in the marketing process.

Charged with two primary responsibilities, namely: service and grading and regulatory, the division is staffed with experienced specialists in each of the major commodity fields. Our work during the 1964-66 biennium reached new levels in many areas. This was due to numerous reasons, among which were changes in governmental farm programs, increased production of new enterprises, newly adopted standards on grades of certain products, adverse weather conditions and the ever changing conditions of supply and demand.

The past biennium was a challenging one in many respects in that it required the professional marketeers and producers, as well, to put forth their best efforts. This was particularly true in the flue-cured tobacco industry with the establishment of acreage-poundage quotas on the 1965 crop.

The effectiveness of our work during this two-year period was due in great part to the continued cooperation we received from producer groups, trade associations, and other state and federal agencies. As in the past, we tried to coordinate our efforts with the work being carried on by other agencies in order that maximum benefits could be realized. We are appreciative of the excellent working relations we enjoyed from these various groups and we look forward to a continuation of this as we further pursue our objectives.

A summary of the division's activities for 1964-66 follows:

TOBACCO

The tobacco industry withstood some of the most serious crises of its history during the 1964-66 biennium. The most severe of these were the effects of the Surgeon General's report on cigarette smoking and health, the continuous spiral in taxation by state and local government, the labeling act requiring warnings on all packs of cigarettes, and the all-time record surplus of flue-cured and burley tobacco.

These uncertainties caused both domestic and export companies to buy very cautiously during the 1964 season at a time when growers had one of their largest yields on record. Thus, large quantities of flue-cured and burley ended up under government loan, pushing loan stocks to an all--time record high. This situation brought tobacco farmers to the brink of losing their price support program.

However, flue-cured growers recognized the seriousness of the situation, and took a giant step in 1965 toward relieving the record surplus problem, when they voted to accept acreage-poundage quotas. Burley growers rejected acreage-poundage quotas in a referendum held early in 1966, so their problem will probably continue to grow.

During the crises of the 1964-66 biennium, the objective of the tobacco section's service program was to help growers overcome these problems by performing those services that would keep them informed of the market situation, and help them improve the quality, usability and trade acceptability of flue-cured and burley tobacco. A two-phase program was continued during the biennium consisting of marketing and pre-marketing activities. Each phase was conducted in organized group meetings with farmers through requests from vocational agriculture teachers, county farm agents, farm organizations, and other groups.

When farmers are in trouble their demand for services naturally increases. This was true in their demand for pre-marketing information to keep them informed and advised as to the current tobacco situation and market outlook. It was through these pre-marketing winter meetings that growers were also given a thorough briefing on the operation of the acreage-poundage program. Providing this basic understanding of the program through cooperation with other agencies led flue cured growers to accept acreage-poundage quotas. Through this same cooperative information program, North Carolina burley growers also were familiarized with the acreage-poundage provisions and voted two-thirds majority for acreage-poundage quotas, although the national burley vote fell short of the required two-thirds majority.

The growing surplus and falling prices during the first year of the 1964-66 biennium, and the sudden change to acreage-poundage quotas during the second year of the biennium, caused much concern among growers and other segments of the industry. The record surplus and sudden change in program made it necessary for growers to make many adjustments in their practices, again increasing their needs for assistance.

The tobacco section met this challenge by assisting growers through group meetings to apply practices that would improve quality and usability and shifting their emphasis to obtaining the highest price per pound instead of tons per acre. Under acreage-poundage most growers produce more tobacco than they can market without penalty. This makes it essential that growers do a better job of sorting and culling out the poorer quality, cheaper tobacco so that they can get the highest possible price for what they sell.

Farm groups were given demonstrations on simple methods of farm sorting to meet the domestic and export demand under acreage-poundage quotas. These demonstrations were conducted under proper lighting using tobacco brought in by farmers who had a question as to how it should be prepared for market. Then each sample was graded into a U. S. Standard grade to illustrate the application of standard grades and the tolerances involved.

As required by the General Statutes, leaf sales reports were collected monthly from all warehouses operating in the state. From these reports a summary was prepared according to belts and markets and sent to a circularized mailing list each month during the season. A further service was provided for the benefit of farmers and the industry through periodic radio and television programs, magazine articles and numerous news releases. Also, the 16th and 17th annual issues of the North Carolina Tobacco Report Bulletin were prepared at the end of the 1964 and 1965 marketing seasons and distributed to about 6,000 persons and firms requesting it.

During the biennium the tobacco section also represented the North Carolina Department of Agriculture at numerous farm and industry meetings pertaining to the welfare of farmers and various other segments of the tobacco industry. The persons in charge of the tobacco section also serves on the board of directors of the Tobacco Tax Council and the Tobacco Growers Information Committee.

GRAIN

As grain production in North Carolina continues to increase, the need for marketing facilities to handle and store this additional production also increases.

The per-acre yield of corn in North Carolina rose from an average of 59 bushels in 1963 to 70 bushels in 1965, bringing about a production increase of 17,535,000 bushels. North Carolina now ranks as the ninth leading corn producing state in the nation.

Soybean production is also rising at a rapid rate in North Carolina as export demand for this crop increases and as research uncovers new uses for soybean products. Total production in 1965 was 19,845,000 bushels, which is an increase of 5,517,000 bushels over the 1963 production. It is one of the most rapidly expanding crops in the state, and with production and harvesting being almost completely mechanized, production and profits have become more attractive to the state's producers. North Carolina currently ranks 10th nationwide in soybean production.

Wheat is grown in all sections of the state and in practically all of the state's counties. Through the use of improved practices, and more productive varieties, the national decrease of wheat in storage and the relaxing of governmental controls, wheat production is expected to increase in North Carolina during the coming season.

Grain production is important. However, the marketing channels through which it must follow after harvest have a decided effect on its contribution to the agricultural and agri-business economy in the state.

The increase in grain production has increased the load on existing grain facilities, bringing about a need for increased efficiency and expansion of these facilities and the construction of new facilities. Technical assistance was provided many of these firms by our specialists during this biennium. This included the selection of handling and storage equipment, selection and use of aeration, drying and temperature indicating equipment, fumigation methods and practices, quality control factors and practices, storage and handling practices and other factors relating to facility efficiency.

Specifically, 14 firms received assistance during the biennium on the planning and construction of new grain handling and storage facilities. The value of these facilities upon completion will exceed $1,800,000. Assistance was also given to approximately 20 firms relative to additions and remodeling of existing facilities. In addition, 11 firms have plans for new construction or expansion of existing facilities under consideration.

In cooperation with other agricultural agencies, specialists conducted training programs for producers on specific programs such as crotalaria contamination in corn and soybeans, advantages and disadvantages of harvesting high moisture corn, stinkbug damage in soybeans, changes in grain standards, aeration, storing, drying, etc.

Specialists made 13 surveys during the past two years to assist people in the grain trade in determining the need or lack of need for grain and feed facilities. These surveys have been extremely valuable in preventing remodeling or construction of new marketing or processing facilities before discovering that there is insufficient volume of business in the area to profitably support the operation. As a result of only one of these surveys, a 500,000 bushel concrete facility is nearing completion at Warsaw, North Carolina; three other smaller elevators have been built, and four are in the planning stage.

The main objective of the management program is to assist personnel in the grain and feed business with management problems relative to grain merchandising. These involve inventory management, personnel and customer relations, planning maximum business efficiency, increasing employee productivity, planning effective use of buildings and equipment and to provide personnel with the opportunity to become more familiar with sound management principles and current developments of importance to them.

This assistance is carried on through conferences with managers and employees and through surveys of physical facilities and observation of operations. When problems are found, they are presented and discussed with managers and all possible assistance given toward solving these problems.

In an attempt to educate the grain trade and the banking trade in the field of commodity hedging, two 10-hour commodity hedging workshops and one 7-hour seminar were held in the state with a combined attendance of 150 people. These classes gave grain handlers, processors, and bankers a basic knowledge of how the futures market operates, its use by the trade, a basic understanding of hedging in practice in North Carolina, and the advantages to both the grain dealer and banker of hedging in the futures market.

Our seed marketing program is designed to assist seed cleaners, seed handlers and distributors throughout the state in processing and marketing the highest quality seed possible.

During the biennium, assistance was given 220 seed processing plants in determining the proper procedure and method in processing seed, selection of screens for specific separations, the use of a seed log, proper packaging of seed, methods of sampling lots of seed to secure representative samples and drying and storing seed. Demonstrations were given on adjusting machinery, and suggestions were made for the installation of seed treaters and for installation of additional seed separating machinery. Special efforts were made by the specialist to encourage the production of seed specifically for seed purposes.

One of our primary efforts during the biennium was directed at improving sanitation in the state's seed processing plants. In this work, we urged management of these firms to process only

"Hedging" classes, such as this one sponsored by the grain section, permitted managers of grain firms to learn more about the futures market and its use in marketing grain.

those seeds grown in the previous production year. This was only one of the several good housekeeping practices which we encouraged as a means of making quality seeds available to farmers.

Demonstrations were held in 12 seed processing plants showing the proper technique of clean-out methods to eliminate many problems of mixing varieties of seed.

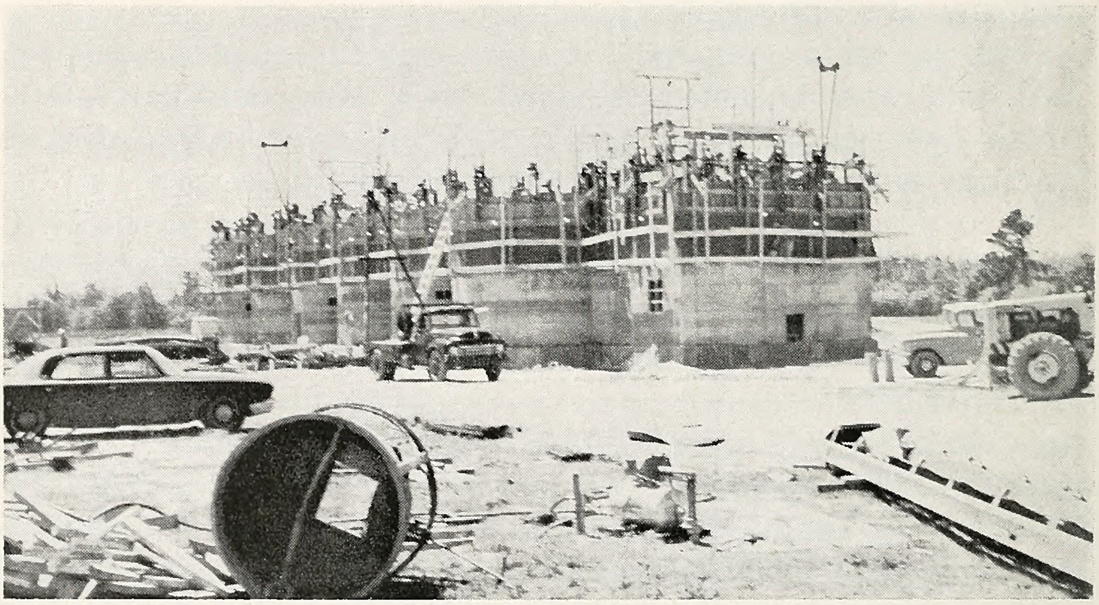
In cooperation with the N. C. Crop Improvement Association, field data were obtained on small grain crops and farmers of North Carolina were assisted in securing registered seed stock from the N. C. Foundation Seed Producers Association.

In cooperation with Mr. George Spain, Director of the N. C. Department of Agriculture Seed Testing Division, soybean plots were planted at the Tidewater Agricultural Experiment Station and small grain plots were planted at Rowan Agricultural Experiment Station.

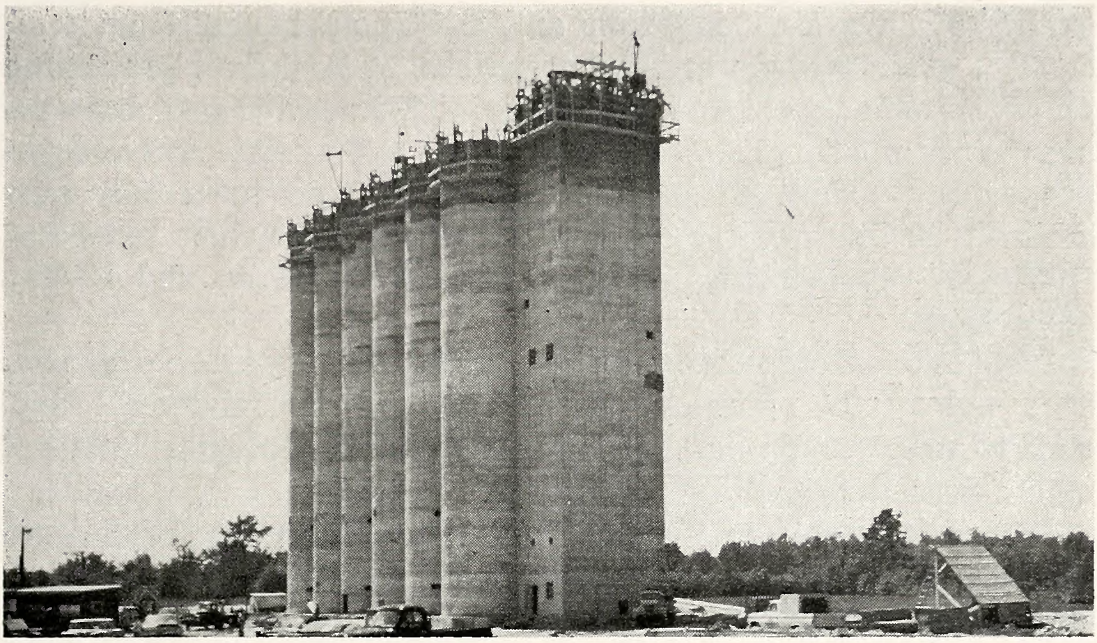
These plots were observed to provide data showing that due to improper clean-out practices, varieties were mixed. The data received was made available to seed producers enabling them to comply with the N. C. Seed Law and state and federal regulations.

In an effort to reach additional producers and industry members, specialists participated in six radio programs and 23 television programs. Forty-two news articles and releases were prepared and sent to the grain and seed trade and to newspapers and radio stations.

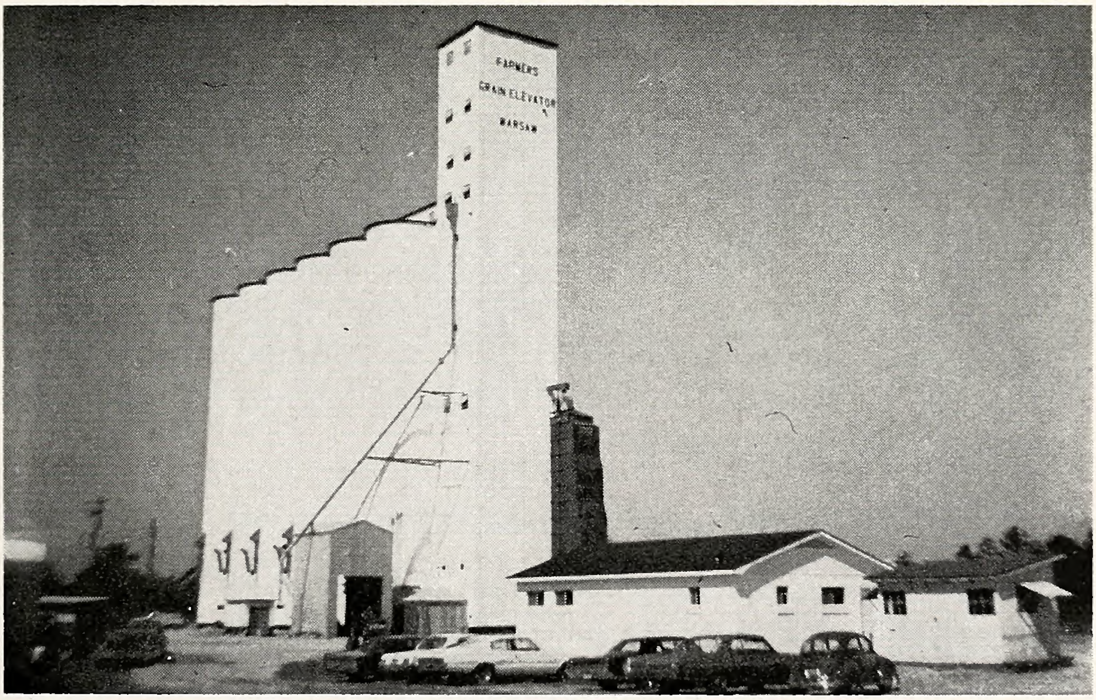
Construction of a new 500,000-bushel grain elevator in Warsaw began by driving treated pilings into the earth to provide a sound foundation.



Forms for the 12 bins and headhouse were built in one section and the entire concrete structure rose at the rate of eight inches per hour.



Once construction began, work continued around the clock. This photo represents seven days work.



This is the finished product, ready to serve grain producers in handling early harvest of their 1966 corn crop.

Another primary function of this section is to certify grade and quality of all grains, soybeans and hay upon request from commercial grain storage facility operators, feed and oil processing plants, brokers and handlers of hay. This service promotes the merchandising of grain and hay on a quality basis and assures buyers and sellers of receiving the quality products they purchased. In this work during the biennium, specialists inspected 1,032 lots representing 3,031,550 bushels of grain, and 10 hay inspections.

Inspection of Motomco moisture meters in the state were made each year of the biennium and 254 meters were checked. Specialists also trained personnel to operate the Motomco moisture meter and other grading equipment.

Requests from commercial firms for grain inspections and grading during the harvest period is an indication of the increased interest among our grain trade in buying and selling on a grade and quality basis. Temporary inspectors placed with 21 firms in the state during the biennium, inspected an estimated 11,500,000 bushels of grain. These inspectors were paid from the Department's Cooperative Inspection Account Fund and all fees for inspections are paid into this fund.

All of the previously mentioned grain section programs were carried on in cooperation with N. C. State University Extension Service; U. S. Fish and Wildlife Service; ASCS Offices; Agricultural Marketing Service; N. C. Department of Conservation and Development; Department of Vocational Agriculture; Industrial Education Centers; Technical Institutes; Community Colleges; Carolinas-Virginia Grain and Feed Dealers Association; N. C. Feed Manufacturers Association; N. C. Crop Improvement Association; N. C. Foundation Seed Producers Association and other farm and trade organizations.

FRUITS AND VEGETABLES (SERVICE)

North Carolina continues to be an important source of fruits and vegetables for processing both within and outside of the state. During the biennium there was an increase of 10,300 acres of processing type crops produced on a contractual basis over the previous biennium when 55,350 acres were produced, representing an increase of 9 percent for each year. This helps an increasing number of family-size farms to diversify their farming practices and provides them with additional cash income.

Processing firms need extra acreages of many commodities each year to meet the needs of the growing population. This increases the service work necessary to locate and secure growers to provide these needs under contract. Marketing changes are taking place at an unprecedented pace because of our expanding economy and the resulting changes in consumer patterns. These and other changes which are taking place during the upsurge in our economy have caused additional demands for service work by the division's specialists. A summary of this work during the 1964-66 biennium follows:

(1) Continued to promote and encourage contractual acreages of the crops in demand by the processing industry. Assisted producers and processors in arriving at equitable prices. Assisted new producers in becoming familiar with the contract system of production, in securing proper seed and plants, and advising them on proper harvesting and delivering at the most desirable stage of maturity.

(2) Assisted production areas to cooperate in assembling quantity and quality products for volume sales to organized buying outlets.

(3) Promoted field and packing shed demonstrations, assisting organized commodity groups in reducing handling costs and promoting general overall efficiency in their marketing operations.

(4) Assisted producers of processing type cucumbers in arriving at fair and equitable prices to be paid by processors. (This resulted in an increase of $280,000 in gross income over the 1962-64 biennium.) North Carolina is now first in the nation in processing cucumber production.

(5) Provided special assistance to processing plants located in Bertie, Martin, Columbus, Robeson, Henderson, Wayne and Duplin Counties in securing contract acreages of several commodities.

(6) Continued to issue fruit and vegetable bulletins which listed the products available, normal harvesting dates and location of the various products. These bulletins were sent to 600 buyers, handlers and dealers in twenty states and Canada.

These assistance programs and projects enabled row crop producers of tobacco and cotton to diversify and have early cash crops under contract which greatly reduced the risk at the market place and increased the family income.

Other activities during the biennium included:

(A) Specialists participated in 94 conferences and group meetings relative to production of commodities under contract for the processing industry. These meetings were attended by 1,670 producers.

(B) Visited on the farm 1,356 producers to explain and promote contract acreage.

(C) Thirty-seven firms received assistance one or more times during the biennium.

(D) Made direct sales in volume to large users and handlers of various commodities, which aided 190 producers.

(E) Thirty-two county extension chairmen were assisted in getting contract acreages in their counties.

(F) Continued a program of coordinating more equitable f.o.b. prices in the 13-county Irish potato producing area to prevent wide differential in prices from one area to another. This work was conducted in cooperation with the N. C. Potato Association, Inc.

FRUITS AND VEGETABLES (GRADING AND REGULATORY)

Standardization and grading of fresh fruits, vegetables and peanuts touches the life of virtually every North Carolinian at one time or another. This service is a first cousin to sanitary inspection.

Standardization is the defining of a product according to grade or quality classes. Grading is the actual physical classing of products according to standards. Grades or standards are simply a yardstick of quality.

Grade standards grew out of the needs in trading. Ther value is in providing a common universal language, not only in face-to-face trading but in telephone transactions which may span the continent.

Cross-country marketing would be impossible or exceedingly cumbersome if there were no standards of quality that had the same meaning at both ends of the line. In short, long distance dealings make it essential to have uniform grade standards that mean the same throughout the country.

While the service of grading and certifying fresh fruits, vegetables and peanuts is available to producers, shippers, processors, receivers, transportation companies and state and federal agencies—it is provided only on a request basis.

The markets division maintains receiving market inspection offices in Asheville, Charlotte, Raleigh and Williamston.

Of these services, the value and importance of market inspection is perhaps the least appreciated and understood. Although small in volume compared with shipping point grading, this work, which is carried on at 75 offices throughout the United States, has far reaching effects. For example, should a shipper receive a complaint on a load of produce shipped to Boston, Chicago, Dallas, Los Angeles or any other part of the country, he can call for and receive an impartial certification. Without such service, our growers and shppers would be at the mercy of the unscrupulous receiver who might be looking for "easy money" by claiming the produce to be of a very low quality when it actually might be top qualty.

To carry on this variety of services, the Division of Markets annually employs more than 350 people. All but nine such employees are on a temporary or seasonal assignment. The nine permanent men make market inspections and recruit, train, and supervise the seasonal personnel and render many additional services in their respective areas.

Grading of fruits, vegetables and peanuts is essentially done on a self-sustaining basis. Contrary to the general opinion, only a small portion of operating costs come from appropriated monies. Fees are assessed applicants who request the services and salaries of inspectors and overhead costs are paid from these funds. This necessitates careful planning in order to operate on an efficient, economical and effective basis.

What are some of the advantages and uses of grade standards and grading?

The packing of fruits and vegetables in accordance with the requirements of official standards is the first step for orderly marketing and efficient buying and selling.

Clear and definite standards are indispensable in the settlement of disputes and claims between buyers, sellers, and transportation companies.

Standardized grades form the basis for market news prices and are necessary to permit an intelligent comparison of market prices.

More effective distribution of fruits and vegetables is permitted by separating them into various grades.

State and federal agencies use grades as the basis for purchasing their supplies of produce, fresh and processed.

Of all the services the state and federal governments provide to farm marketing, the ones the National Food Commission tagged for special testimony were those of inspection, standardization and grading.

The Commission recognizes that consumers as a group are becoming more conscious of their powers and more expressive of their interests. Consumers nowadays insist that their food be safe and reliable as to quality. Standardization and grading form the kind of service that improves the performance of the entire marketing system in ways that do not always meet the consumer's eye in the food store.

This section also administered the provisions of the "Handlers Act" and the "Seed Potato Law".

The "Handlers Act" requires that handlers of farm products not operating on a cash basis shall obtain a permit from the Commissioner of Agriculture before entering into agreements with farmers to produce crops. Financial responsibility must be established before permits are issued.

The "Seed Potato Law" specifies that only U.S. No. 1 quality Irish and/or sweet potatoes may be sold for propagation purposes. Such seed stock shall also conform to the certification requirements fixed by the International Crop Improvement Association.

Summary of Major Activities—1964-1966

Carlot inspections, shipping point	12,048
Farmers stock peanuts inspected, tons	374,408
Packages graded at auction markets	2,214,311
Processing plants using grading service	6
Carlot inspections, receiving markets	1,236
Pounds fruit & veg. graded for state & Federal agencies	5,138,548
Training classes conducted	14
Number new inspectors trained	150
Refresher courses conducted	32
Number inspectors given refresher training	300
Number inspectors trained on-the-job	41
Number bags seed potatoes checked	290,391
Number permits issued under the Handlers Act	63

Other activities of this section included the sampling of canned and frozen foods and oils, samples being forwarded to processed foods laboratories for official analysis; participating in producer and shipper conferences and meetings; appearing on television and radio programs; and conducting conferences with field supervisory personnel.

LIVESTOCK

Livestock and livestock products are now constituting one of the major sources of farm income in North Carolina. Livestock enterprises offer great opportunities to farmers in all sections of the state. They fit well into part-time farm operations and provide these, as well as full-time farmers, an excellent means of increasing farm income.

North Carolina is still a deficit state in the production of red meat. Both cattle and hogs are shipped into the state for slaughter. The problem is to maintain a continuous monthly supply of livestock for slaughter. At certain times we have a surplus of fat cattle, but this is usually for a short period of time.

The market service work is aimed at assisting all people involved in marketing livestock and livestock products. For producers this means buying or selling by private treaty or collectively in special pools or sales. For the livestock auction market—it means planning sales, consigning livestock, grading and grouping for sales, contacting buyers and assisting with sales. For packers and processors it means procurement of livestock for slaughter, grading beef carcasses and acceptance of meat products bought by state institutions.

During this biennium there was a noticeable increase in feeding cattle, both steers and heifers, for slaughter. Part of this increase was due to more personal contacts with North Carolina farmers and less emphasis placed on contacting out-of-state feeder cattle buyers. Another contributing factor was the work and emphasis placed on the Market Steer Show at the North Carolina State Fair during the past three years. The success of this show, the quality of the cattle and the packer buyer support and interest have proven to North Carolina feeders that there is a demand for quality beef.

There has been a definite increase in cow and calf production, as well as an increase in the production of stockers and feeder cattle for spring sales and quality feeder steers. During this biennium our specialists, working with the North Carolina Cattleman's Association and extension livestock specialists, scheduled and supervised 68 special feeder cattle sales, selling 70,323 head of feeder caves, yearling steers, and stockers cattle for $8,347,504.54.

Kind of Sale	No. of Sales	No. of Head	Total Dollars
Feeder Calves	34	36,176	$3,641,320.29
Yearling Steers	13	18,092	2,561,757.55
Spring Stocker Sales	21	16,052	2,144,426.70
	68	70,323	$8,347,504.54

The cattle were graded, grouped, and sold in uniform lots. The quality and volume of sales attracted buyers from Midwestern, Northeastern, and Southeastern points of the United States.

We assisted livestock markets in grading and selling more than 8,000 cattle through 12 special sales following the state sponsored sales listed above. Considerable time was devoted to assisting producers in buying and selling feeder and fat cattle and in buying purebred bulls for herd sires, emphasis being placed on improving the quality of North Carolina feeder cattle. In addition, assistance was given state purebred cattle associations in conducting their sales.

Swine work during the biennium was directed toward improving the quality of the animals produced, with considerable emphasis on increasing hog production. North Carolina has been a pork deficit state and continues to import large quantities of pork into the state.

During the first half of the biennium the complexion of the swine industry was in a period of change. Many small, inefficient producers stopped raising hogs while larger producers continued to expand. The net result was little change in the swine population numbers in the state. Results of the efforts of the swine specialists became apparent during the last half of the biennium. While other states decreased in swine production, North Carolina increased and moved to 10th in national standing in hog numbers. North Carolina ranks first in the Southeastern States.

Division specialists have been instrumental in bringing about more efficiency in marketing the state's increasing number of feeder pigs through helping to organize and conduct quality feeder pig sales.

Many large swine operations now exist in the state, with several feed lot operations having a continuous capacity of 1,000 to 3,000 pigs. Many farms now have more than 100 sows as swine farming moves from a side-line to a major farm enterprise. Farmers are seeing the need for the use of highly technical know-how that is provided by swine specialists as production becomes more concentrated.

Considerable effort has been devoted to improving the marketing and the quality of feeder pigs. Swine specialists were instrumental in starting graded feeder pig sales in North Carolina late in 1965. One former sale and two new sales now operate on a graded basis. Producer and buyer acceptance is favorable. Pig quality is being improved as specialists assist in planning breeding programs in selecting suitable breeding stock. Quality feeder pig sales have reached an annual value of $1,500,000. In graded feeder pig sales the arrivals are handled in much the same manner as in feeder calf sales. Buyers can make purchases by weight and uniform grades and can easily purchase pigs by telephone when not able to attend sales.

An effort has been made to develop local markets for the feeder pigs. The specialist assists sale operators in maintaining contact with out-of-state buyers which add strength to the local buying power of the sales.

The majority of the market hogs sold in North Carolina are purchased on some type of a quality grading system. Independent buying stations are almost non-existent as packers expand their direct form of buying combined with the operation of their own buying stations. The swine specialist visits buying stations and familiarizes himself with changes in buying policy in order to advise farmers on marketing problems.

Acceptance is given to all purebread swine sales held in the state. Help is given in locating prospective buyers and in assisting buyers in determining which animals will best suit their needs. The specialist attends meetings of the herd associations and suggests ways for improving the marketing of purebread swine.

Sheep continued to decline during this biennium, however there is definite interest to add sheep in larger flocks in some areas of the state. This seems to offer a possibility of changing the downward trend. The small farm flock of 10 to 20 ewes seems to be definitely on the way out.

The lack of sheep numbers creates definite marketing problems. During the biennium 30 lamb pools were conducted, grading and shipping over 11,000 sheep and lambs, with a total value of over $200,000. In addition, we supervised the grading of lambs at one auction market that handled approximately 13,000 sheep and lambs. During the biennium 1,200 western replacement ewes were bought and distributed to North Carolina farmers. In addition to the commercial ewes we also helped producers secure 22 purebred rams.

A decline in the amount of wool marketed followed the decline in sheep numbers. The 1965 State Wool Pool handled 99,277 pounds that brought $58,211.99. To date the 1966 State Wool Pool of approximately 90,000 pounds has not been sold. The mountain pool from Ashe, Alleghany, Avery and Watauga Counties collected over 65,000 pounds that brought over $40,000 in the last two years. The wool is offered for sale on a sealed bid basis and sold and collected by personnel of the section working with North Carolina State University Extension livestock specialists.

Grading of beef, veal, and lamb carcasses in 42 approved North Carolina packing plants was continued during the biennium. A total of 24,152 dressed carcasses weighing 12,229,137 pounds were graded using N. C. Department of Agriculture Grade Standards. Assistance was also given North Carolina State supported institutions in buying, grading and acceptance of meats and meat food products. During the biennium 9,950,535 pounds were graded and accepted. This service assures state institutions the products they buy meet quality standards according to state specifications.

POULTRY & EGGS

Turkey production made the most marked change of any phase of the poultry industry during the 1964-66 biennium. North Carolina ranked fifth in the nation in turkey production, fourth in broilers, and eighth in shell eggs. The state's turkey production rose from 4½ million in 1964 to nearly 5¼ million in 1965, an increase of 13.3 percent.

Very little change occurred in the production of market eggs during the biennium. The national per capita consumption of eggs declined during this two-year period from 313 to 308. Of the 308 eggs consumed per person during 1965, 30 were consumed as processed products, mostly as ingredients of other foods such as baked goods, mayonnaise and noodles.

Production of broilers, the third phase of the industry, increased 10 percent. Civilian per capita consumption of chickens and turkeys climbed to a record high of 40.7 pounds as compared with 38.4 pounds the year before.

This section was responsible for four main functions: grading, regulatory, service and promotion.

Official grading was carried on in nine poultry processing plants, six shell egg facilities and two egg products plants with pasteurization facilities, employing 20 graders.

Personnel within the section offices includes 12 marketing specialists and two secretaries. Two specialists work with poultry, eggs and egg product grading, six with the Egg Law, two with service work and one with the promotion of poultry and eggs.

Poultry and Egg Grading:

Official egg grading service was installed in F.C.X. Egg Marketing Service, Inc., Charlotte; Sky-Kist Farms, Inc., Asheville; and Wimberly Feed Mill, Angier.

Official poultry grading service was installed in Simpson Poultry Company, Inc., Monroe; Wilson & Company, Inc., Robbins; Morgan & Sons, Guilford College; Swift & Company, Greensboro; Rockingham Poultry Marketing Corporation, Burlington; and Central Soya of Monroe, Inc., Monroe.

Due to increased capacities and production of several graded products, additional graders were provided at Raeford Turkey Farms, Inc., Raeford; Holly Farms Poultry Industries, Inc., Wilkesboro; and Carlisle Poultry & Egg Associates, Inc., Burgaw.

A comparison of this work during fiscal years 1965 and 1966 is presented below:

Product graded	**Fiscal Year 1965**	**Fiscal Year 1966**
Shell Eggs (dozens)	30,800,100	33,664,362
Frozen Eggs (pounds)	2,222,438	2,676,350
Chickens (pounds)	181,491,369	206,737,166
Turkeys (pounds)	47,645,176	62,560,250

A new service by Armour Creameries, Marshville, was developed to pay turkey growers on the basis of an official grading on each lot of turkeys processed in the plant. The results, documented on an official USDA certificate by the federal-state grader, provide a basis for settlement by a disinterested third party.

Technical assistance was provided to Central Carolina Farmers, Inc., Durham, and Chick Haven Eggs, Inc., N. Wilkesboro to enable both firms to expand their egg products facilities to include pasteurization equipment and additional facilities for elimination of salmonella organisms from the finished products.

Regulatory (Egg Law)

Significant changes were made in the North Carolina Egg Law during the past biennium. North Carolina became the first state to implement the Model Egg Law, which became effective July 1, 1965.

The new law provided for appropriation of funds for administering the law and eliminated inspection fees. The additional funds enabled the Markets Division to increase the Egg Law staff with the addition of two marketing specialists. North Carolina was subdivided into six areas with specialists located in Faison, Washington, Raleigh, Statesville, Earl and Asheville. This subdivision helped to bring about a decrease in the cost per unit of work from $14.06 in 1963 to $7.05 in 1965.

New rules and regulations were drawn by the Egg Law Advisory Committee and enacted by the Board of Agriculture. The shell egg rules and regulations became effective December 1, 1965, and the rules governing egg products became effective July 1, 1966.

Several pieces of literature were developed during this period to explain in a simplified manner the requirements of the law. The most successful was a bulletin entitled "Know Your Eggs".

Specialists with the Egg Law are continuing to make a concerted effort to cooperate with the industry in the implementation and enforcement of the law. Close liaison is maintained between the industry and the Egg Law staff by attendance at the professional meetings of the industry. Extensive work has been done to acquaint personnel in the State Board of Health, Public Welfare and various other groups with the requirements of the law and benefits to be obtained by compliance with the law.

In administering the Egg Law, personnel visited 11,029 facilities during the period; 53.1% of which were in violation of the North Carolina Egg Law. In an effort to correct producer and distributor violations, personnel visited and worked with 916 producers and distributors. It was necessary to hold 67 hearings for violators in an effort to secure compliance without court action. The department brought three court cases for persistent violators during the two year period.

Egg Service

During the biennium, requests were received from 141 producers for service work pertaining to adjusting machinery, problems in washing, candling, sizing, packing and storing eggs. On several occasions, egg weighing machines were found out of adjustment and were corrected by the use of test weights.

Likewise, 186 egg distributors and packers requested service assistance with problems of candling, off-flavor eggs, checks, blood spots, tremulous air cells, mottled yolks and general plant operation. In addition to these, 16 egg quality schools were held with 157 persons representing 11 counties.

Demonstrations were given relative to egg quality through correct candling and practicing correct procedures for gathering, washing, sizing, packing and storing eggs. In response to several requests concerning the occurrence of black rots in eggs stored for a short time specialists with the aid of a black light were able to detect the presence of bacteria causing this condition. Generally bacteria of this kind are present due to inadequate sanitation. Egg shows were judged at seven fairs and three ham and egg shows, and approximately 33,000 eggs produced in the Random Sample Test were candled at the Piedmont Experiment Station for interior and exterior quality.

Promotional

Since the poultry industry is so important to the economy of North Carolina, it is necessary to promote increased consumer use of these products, and to educate consumers and prospective consumers as to the nutritional value, economy and versatility of poultry products. A new era of promotion has opened up with the further processed products becoming more important to North Carolina.

Up-to-date recipes and booklets were compiled and distributed to home economic teachers, extension agents, nutritionists, 4-H leaders and Extension specialists for their use.

Cooperation and promotional assistance were given to the N. C. Poultry Processors Association, N. C. Egg Packers and Processors Association, N. C. Egg Marketing Association, N. C. Yam Commission, N. C. Cattleman's Associotion, and N. C. Home Economics Association and other agencies.

The N. C. Chicken Cooking Contest promotion continued to grow, with eight contestants being sent to the National Contest in Maryland.

Egg shell craft was developed and publicized across the state to be used by homemakers, camp leaders, school art directors, recreational leaders and church school groups.

Other promotions were carried out in cooperation with Governor's Office, the Commissioner's Office, the N. C. State Fair, county fairs and through mass media. The mass media communications included 65 television programs, 26 radio programs and numerous news articles.

Poultry Service

During the biennium, specialists made 123 visits to 46 poultry processors. Surveys were conducted to determine how the processors could best be aided by the service program. Service personnel visited with USDA officials in Washington, D. C. and Atlanta, Georgia to gather ideas on service and research work for poultry processors.

Processing plants in Cordover, Denton, and Salisbury, Maryland; Atlanta, Canton, and Athens, Georgia were visited to observe processing techniques. The National Marketing Workshop in Des Moines, Iowa, cultivated several ideas now being utilized.

New programs of service were instituted during this period and an employee training program was inaugurated. Extensive studies of moisture pick-up and retention were conducted. Time, motion and other general efficiency studies were conducted in order to increase labor utilization and plant profit. The latter studies were performed in cooperation with the engineering section. The results of these studies were well received and suggested changes were made by the cooperating plants in most instances.

Shortage of labor necessitated a study of the prison labor under North Carolina's work release program for use in poultry plants. At present a cooperative study with the engineering section is under way to determine an economical process for removal of feathers and blood from disposal water.

DAIRY

The primary objective of the dairy marketing service program is to assist individuals and groups with materials, ideas, and other means of stressing the need for adequate milk consumption as part of a balanced diet. The majority of the work is carried on in the public schools where the children are more easily influenced than are adults. With several schools throughout the state now serving breakfast, there was a renewed effort to encourage the administrations of these facilities to make milk available to the children at a reasonable cost.

During the last biennium, many new federal programs of assistance were introduced to the school administrations. One of these was the Title II program, which allows the purchase of educational materials for libraries and individual use. Letters and materials were sent to 60 superintendents urging the purchase of such material.

The dairy specialist gave 388 illustrated talks and demonstrations to 59,105 children and 2,133 adults during the biennium. The major portion of this work was carried out in 19 counties, with other work being done in several schools scattered throughout the state. Approximately 250,000 book markers, showing how milk fits into a well-balanced diet were given to the children attending the talks. Posters and other educational materials showing the importance of mik were given to libraries and teachers for use as teaching aids.

Personnel in this section was responsible for establishing and operating the dairy bars, financed by the North Carolina Dairy Products Association, at the School Superintendents Conference held each August. This was especially valuable in meeting the superintendents and creating a better working relationship for school programs.

Eight TV shows, five radio programs, and 18 spot TV announcements were given stressing the importance of milk and milk products in a balanced diet. Food releases were mailed to several local newspapers, and informational bulletins were sent, from time to time, to school supervisors and to home agents for distribution among Home Demonstration Clubs and 4-H youths.

Close association was maintained with professional organizations such as the North Carolina Home Economics Association, North Carolina Congress of Parents and Teachers, the North Carolina Public Health Association and the North Carolina Council on Food and Nutrition.

The personnel in this section worked in close cooperation with many allied groups in the dairy industry to sponsor June Dairy Month, exhibits and other marketing activities which have proved to be effective as indicated by the increase in the per capita consumption of milk.

June Dairy Month is a very important phase of promotional work. This specialist is a member of the North Carolina dairy industry promotion committee, which sponsors the promotion. Assistance is given through area meetings, acting in an advisory capacity to local groups, furnishing source material for newspapers and magazines, and arranging television and radio programs pertaining to June Dairy Month.

Miscellaneous activities included many meetings allied with the work, radio talks, co-operating in the area development contests, assisting peach growers with promotions tying in dairy products, and mailing dairy recipes to local newspapers.

MARKET NEWS

The market news section drastically changed its method of reporting the market for fryers and broilers during the biennium. Information is now obtained and released on a ready-to-cook, delivered terminal point basis. Also, at the request of the industry, the state assumed full responsibility for continuing the reporting of live values on broilers. Heretofore, this had been a joint federal-state undertaking.

The reporting of feeder pig sales was a new service initiated for the livestock industry. At present, there are nine sales at five locations in the state each month. A reporter personally covers five of these sales and obtains a detailed report of the other four by telephone. Comprehensive summaries are prepared and released after each sale.

The coverage of livestock auction markets was expanded during the biennium. Reporters now cover five sales each week instead of only three markets which were being reported previously. Also, auction prices for butcher hogs are included in the reports which in the past contained only information on cattle sales.

A directory of livestock marketing facilities in the state, which was initiated by the market news service in 1962, was revised each year of the biennium. The directory, which originally contained only information on weekly auction markets and daily cash buying markets, was expanded during each revision and now includes a section on feeder pig sales and a listing of the registered and bonded livestock dealers in the state.

The market news service established eight additional contacts throughout the state from whom daily market information on grain is obtained. This was done in order to provide coverage to areas which previously had not been reported.

Realizing the need for greater speed in disseminating current market information, daily radio broadcasts were expanded to include a network of 14 stations in eastern North Carolina. In addition, two special weekly broadcasts were established to carry livestock auction reports over local radio stations.

Preliminary work has been done for establishing a daily market report for sweet potatoes and apples beginning with the 1966 season. This service has been requested by the fruit and vegetable industry.

ENGINEERING

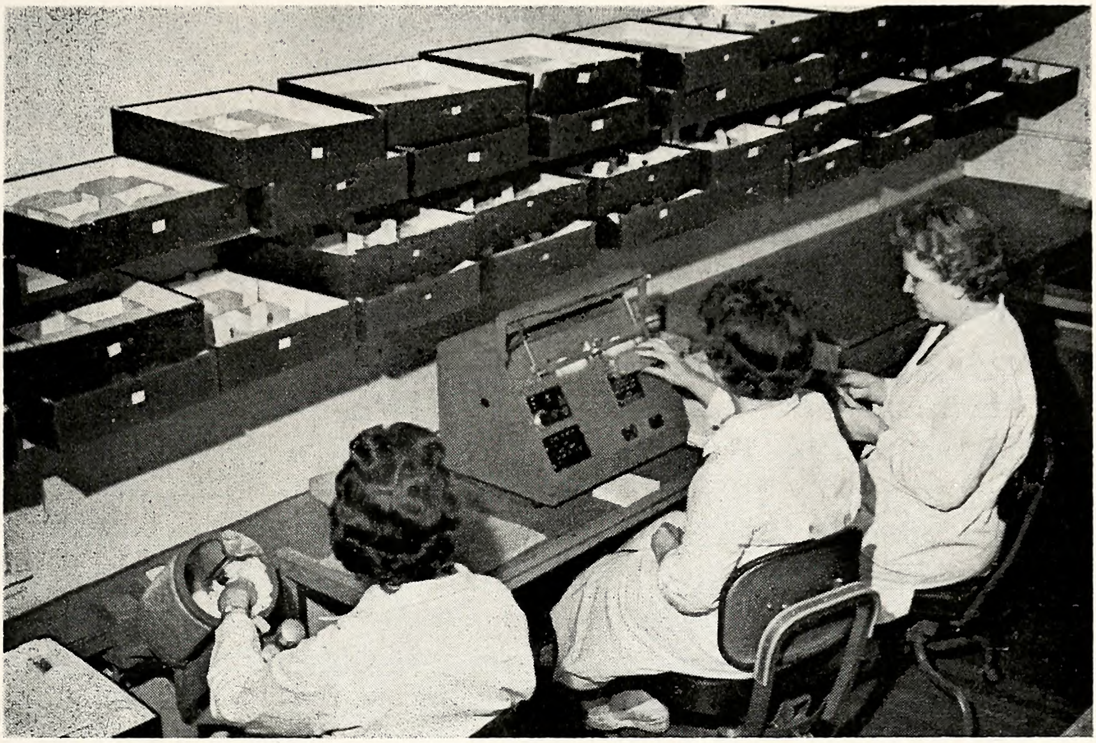
The agricultural processing industry has never experienced such rapid changes in techniques and methods as it is now undergoing. The demands and desires of consumers are requiring increasingly more services by processors. The housewife, in today's busy world, wants a product which requires a very minimum of effort on her part in order to consume or use the product. It is the responsibility of the engineering section to assist these processors in keeping abreast of these changes in order that they can provide a product of the highest quality which is competitive at the market place.

The cotton ginning industry has experienced some drastic changes in these two years. The 1964 crop was the best in several years, with the state producing 374,000 bales on 381,000 acres. Production in 1965 was 221,000 bales on 368,000 acres. Ginners have installed a vast amount of new equipment in the state to take care of machine-picked cotton and to gin it at a faster rate, since the crop is harvested faster. In addition, 10 new high-capacity gins were constructed during the biennium. Technical assistance was given to practically all of these firms in selection, erection, and synchronization of gin equipment to improve ginning service. Twelve detailed drawings were prepared during the two-year period.

An air pollution problem has been created around some gins because the machine-harvested cotton contains more non-lint content which must be removed and, therefore, requires more cleaning equipment. In some cases the non-lint content was being discharged into the atmosphere causing a health hazard or a nuisance. Specialists in the engineering section designed an in-line air filter which was fabricated and installed. It was successful in correcting the problem and was the first of its type east of the Mississippi River.

Specialists worked closely with cotton brokers, merchants, and mill buyers during the biennium trying to help develop a market for North Carolina cotton. On July 1, 1965, approximately 50.2 percent of the 1964 crop was still in storage under Commodity Credit Corporation loans, while on June 29, 1966, approximately 33.7 percent of the 1965 crop remained in the loan.

During the biennium the cotton fiber testing laboratory tested



Test results from the division's cotton fiber testing laboratory have been extremely valuable in marketing North Carolina cotton.

16,246 samples. Most of these samples were tested during the ginning season for the purpose of publishing a weekly Fiber Quality Report. This report, which includes the fiber lengths as given by the Digital Fibrograph Test, the fineness of the fiber as determined by Micronaire Test, and the fiber strength as determined by the Pressley Test, has been a valuable aid to buyers in locating cotton of a given quality. Cotton merchants have cited numerous examples of how test results from the laboratory have been used to sell North Carolina cotton.

The fiber properties of North Carolina cotton, which have improved over the past two years, is placing North Carolina cotton in a better competitive position with cotton from other areas of the United States. The laboratory has been used during the off-season to test samples for research scientists and others, such as merchants or mills, in trying to solve some problems which arise with the users of cotton. Research scientists have found te test results valuable in the breeding program which is expected to continually improve cotton quality through better varieties.

Milling corn for human consumption is one of our oldest type of agricultural processing facilities. Many of these mills have been renovated to provide more efficient and sanitary methods in handling this food product. The milling industry is one which is essential to the over all state economy in providing a tasty, nutritious food. Even though this industry has made much progress, physical conditions of some of the plants is a continuing problem of sanitation. Assistance to the milling industry during the biennium included:

1. Working closely with the Eastern and Western Millers trade organizations in coordinating market promotional activities. Through a voluntary promotional fund, 21 millers have contributed $7,142.41 to finance promotional activities for the two-year period.
2. Advising on packaging, handling, and processing grain.
3. Assisting millers in treating grain to protect it from insects while in storage.
4. Encouraging millers to improve sanitation of mills and mill premises.
5. Assisting in planning improvements to physical plants.

Engineering services to all types of processors increased during the biennium. There was increased emphasis placed on having North Carolina agricultural products processed in the state instead of being shipped out for processing, and then shipped back into the state to be consumed. Many requests were filled for entirely new processing facilities, while others found it feasible to renovate existing facilities.

Another service was added by the engineering section to assist agricultural processors in improving the efficiency of processing methods and techniques. This service is rendered to marketing agencies in working together to determine feasibility of, and need for, new or expanded marketing and processing facilities. Upon request by processors in North Carolina, studies are made on more efficient ways of performing their marketing operations, such as packaging, storing, loading, and transporting goods. Where feasible the engineering section provides firms and agencies assistance in determining proper size, type, location, and layouts for all types of processing and marketing facilities.

During the biennium, the engineering section prepared 92 detailed drawings of floor plans and equipment layouts. Fifty-five of these recommended plans were for new facilities. Construction costs on these recommended plans is estimated at approximately $4¼ million.

The processing industry in North Carolina has made tremendous growth; however, the surface has only been scratched in this field of rapidly changing technology.

COOPERATIVES

During the 1962-64 biennium North Carolina farmers continued to show considerable interest in joining together to handle their products and to purchase their needed services and supplies. Evidence of this is to be found not only in the number of new organizations formed during this period, but also in the expansion of existing facilities and the increase in numbers of requests to the division for assistance in these changes.

New cooperatives formed during the biennium were:

Beaufort-Hyde Dairy Herd Improvement Association, Inc., Belhaven; Buncombe County Dairy Herd Improvement Association, Inc., Asheville; Mountain Egg Farms Cooperative, Inc., Asheville; Zion Cotton Growers Cooperative, Inc., Shelby; Neuse-Trent Diversified Marketing Association, Inc., New Bern; Southeastern Farmers Grain Association, Inc., Kenansville (Warsaw); Southern State Chesapeake, Inc., 1234 Brambleton Avenue, Norfolk, Va., (Domesticated Virginia Corp.); Southern States Chesapeake, Inc., 11 Corcoran St., Durham; (Domesticated Va. Corp.); Bricks Farmers Cooperative, Inc., Route 3, Enfield; Haywood Farmers Cooperative, Inc., Route 1, Enfield; Tillery Farmers Cooperative, Inc., Route 1, Halifax; White Oak Farmers Cooperative, Inc., Route 2, Enfield; Micro Cooperative Association, Inc., Smithfield; (Micro;) Pine Level Service Association, Inc., Route 3, Selma; Macon County Fruit and Vegetable Growers Association, Inc., Franklin; Swift Creek Farmers Cooperative, Inc., Whitaker; Mid-State Farmers Cooperative Company, Inc., Staley; Moss Neck Growers, Inc., Route 1, Pembroke; Robeson Marketing Association, Inc., Lumberton; Farmers Dehydration, Inc., Route 1, Clinton; Sampson County Livestock Association, Inc., Clinton; Lanes Creek Cooperative, Inc., Box 867, Monroe; Union Cotton Growers, Inc., Box 347, Monroe; Union Grain Cooperative, Inc., Box 347, Monroe; West Union Cooperative, Inc., Box 347, Monroe; F C X, Inc., (Amended), 121 E. Davie Street, Raleigh; and Brushy Mt. Labor Camp, Inc., Moravian Falls.

The Cooperative Law (Chapter 54 of the General Statutes of North Carolina) urges every group of persons contemplating organizing an association to communicate with the Division of Markets for information on conditions affecting the commodities to be handled. This service, and assistance in the preparation of charters, by-laws, marketing agreements and other business papers and reports, were provided each of the previously mentioned new organizations and to numerous existing ones. Additional assistance was given in advising directors and members regarding management, sales, purchases, financing and record keeping. Also financial reports of cooperatives and mutuals were received, reviewed and filed.

Many other non-stock, non-profit corporations under Chapter 55A were given similar assistance.

Agricultural fairs in North Carolina were inspected each year and suggestions were made for improvement. Representatives of the division made about 75 such inspections and further classified them into groups according to the emphasis placed on agriculture.

Two agencies, Office of Emergency Planning and North Carolina Civil Defense Agency, delegated to the Division of Markets certain duties in the field of food, supplies, and fuel. Considerable work went into this service, which included preparation of detailed plans to be used within the state in case of emergencies.

TRANSPORTATION

The complexities and variances in transportation change not only from year to year and month to month, but almost day by day, varying as to commodities. Transportation plays an important element in marketing, in that the percentage of the selling price of the commodities is reflected from approximately two percent on tobacco to 50 percent or 60 percent on watermelons, hay and bulky items. Transportation is directly affected by legislative changes, weather, disasters, competitive situations and regulatory changes.

Because of the competitive nature of buyers, sellers, industries and other factors, direct reference to specific names or location is purposely not revealed in the following resume. To assure clarity and brevity, the resume also refrains from the details of technical regulatory body or court case designation.

Perhaps one of the most important functions of the transportation section is its interest in general rate cases before regulatory bodies, wherein increases in rates may materially affect agriculture or farmers. Last year the regulated motor carriers filed an increase in their rates of nine percent, which was protested and suspended by the North Carolina Public Utilities Commission This case did not progress to hearing but the increase was automatically withdrawn by the motor carriers. It is probable that a similar or lesser increase will be proposed at some future date.

During this biennium the railroads published and filed a very drastic increase in rates on switching at practically all terminals in North Caroina. This particular increase would have directly affected the manufacture, production and distribution of fertilizer, particularly from Wilmington, North Carolina. The proposed increase was protested by the North Carolina Department of Agriculture and other interests. The increase was suspended and set for hearing by the North Carolina Public Utilities Commission. This particular case lasted four to five days with a very lengthy transcript of record. The increase sought by the railroads was denied by the Commission and then appealed by the railroads to the Superior Court. The Superior Court sustained the findings of the Commission and the increase was appealed to the Supreme Court which subsequently affirmed the findings of the Superior Court and the Public Utilities Commission and the increase was thus avoided.

Of direct interest to the Department of Agriculture are proposed railroad mergers, particularly the merger of the Atlantic Coast Line and Seaboard Air Line Railway. Any combination of railroads providing single versus two-line haul, automatically reduces the rates of a substantial portion of the area served by the two railways. The North Carolina Department of Agriculture has participated in various hearings and incidents relating to the proposed merger. The merger is still pending, but it is anticipated that it will be permitted within the next six to 12 months.

Currently, the Department is assisting the cotton farmers and shippers in a proposed regulated motor carrier increase varying from 40 to 100 percent on the movement of cotton in bales intrastate in North Carolina. The proposed increase has been suspended and is set for a hearing in September. The cotton interests have sought the cooperation of the Department in obtaining exemption from regulation, intrastate in North Carolina, on the movement of cotton. The Department has been instrumental in procuring exemption from regulation of other commodities such as grain, cucumbers, peanut stocks, etc. At the time of the writing of this report a hearing with respect to this exemption is scheduled for the middle of August, 1966. The proposed increase in rates is set for later hearing in September, if exemption is not effected prior to that time.

A second phase of the work of the transportation section deals with proposed legislation affecting changes in regulations and possible rates. There is pending before Congress a bill, proposed by the President, to consolidate most transportation agencies, including the Interstate Commerce Commission, into what will be known as a Federal Transportation Agency. This may directly affect agricultural transportation in that such a revision may curtail so-called exempt transportation, which is one of the important avenues of movements of agricultural commodities. Such an agency may also directly interfere with car distribution and other items of direct concern to agriculture. The Department has participated in keeping abreast of the changes proposed through its participation as a member of the Transportation Committee of the Southern State Departments of Agriculture.

The committee referred to is a transportation committee originally fostered by the State of North Carolina with the assistance of the State of Georgia and has now grown to a total membership of 11 southern states. Last June the Southern Region of the National Association of Agriculture Commissioners formalized this particular committee, which functions largely in matters of transportation which are of general interest to the southern states, particularly with respect to national legislation.

North Carolina is a heavy corn and soybean producing state. During the early fall months, almost at the same time that the wheat crop in the west and other car demands result in serious car shortages by the railroads, there is a resultant inability of the railroads to supply cars for transportation and storage of grain. This situation occurred last year and efforts were made to relieve North Carolina and a large number of a certain type of cars were diverted from Florida to aid North Carolina in its distribution. It now appears that this type of shortage will grow and become acute each year. As a result of this situation, the southern railroads have been furnished the assistance of the North Carolina Department of Agriculture, along with other states, in preventing a national diversion of the cars from the southern area to the mid-west. The Interstate Commerce Commission has in the past diverted a large number of cars to the grain area in the west causing a depletion of equipment in the seaboard area.

The transportation section assists the various commodity sections in the development of information for new industries, related to agriculture, planning to locate in the State of North Carolina. At times this involves cooperation with the Department of Conservation and Development. Several large industries are interested and information has been furnished to them over a period of quite a number of months, said industries involved having many millions of dollars in proposed investment. Recently a new elevator was established at a point in southwestern North Carolina, predicated almost entirely upon the cooperation of one railroad in the establishment of entirely new and lower rates for this particular industry. An arrangement has been made whereby this industry will daily shuttle 10 car trains between two points, only 10 miles, at a competitive rate lower than the transportation could be performed by truck. This is mentioned to indicate the cooperation of the rairoads in working with the Department of Agriculture in the establishment of industries. There is still pending the interests of a number of large companies in the establishment of an export grain elevator at Morehead City or Wilmington, North Carolina.

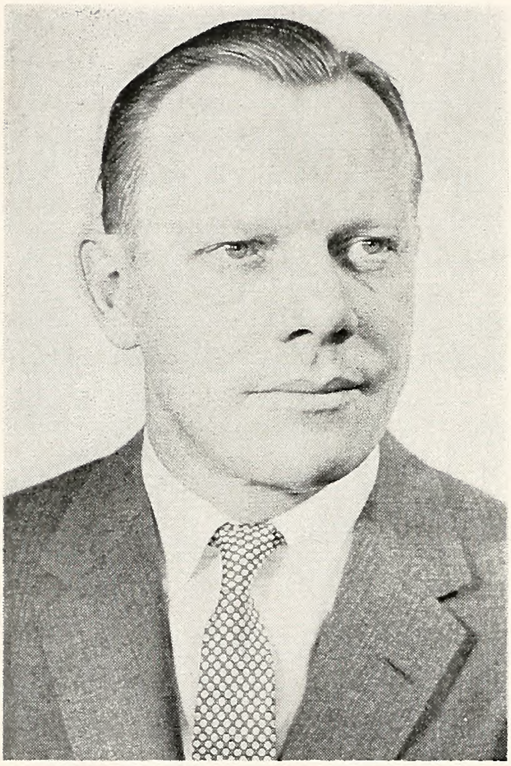
One of the most important routine functions of the transportation section is the auditing of freight bills, particularly of motor carriers, under the Food Distribution Program of the North Carolina Department of Agriculture. All rates and motor carrier dockets are checked in advance and interested parties notified of proposed changes.

Although not a primary function of the transportation section, the transportation consultant last year served as the leader of a group of 16 North Carolinians on a one month visit to eastern Europe and the Soviet Union. A report of this trip and the agricultural ascertainment has been duly filed.

STATE MUSEUM DIVISION

William L. Hamnett

Acting Director

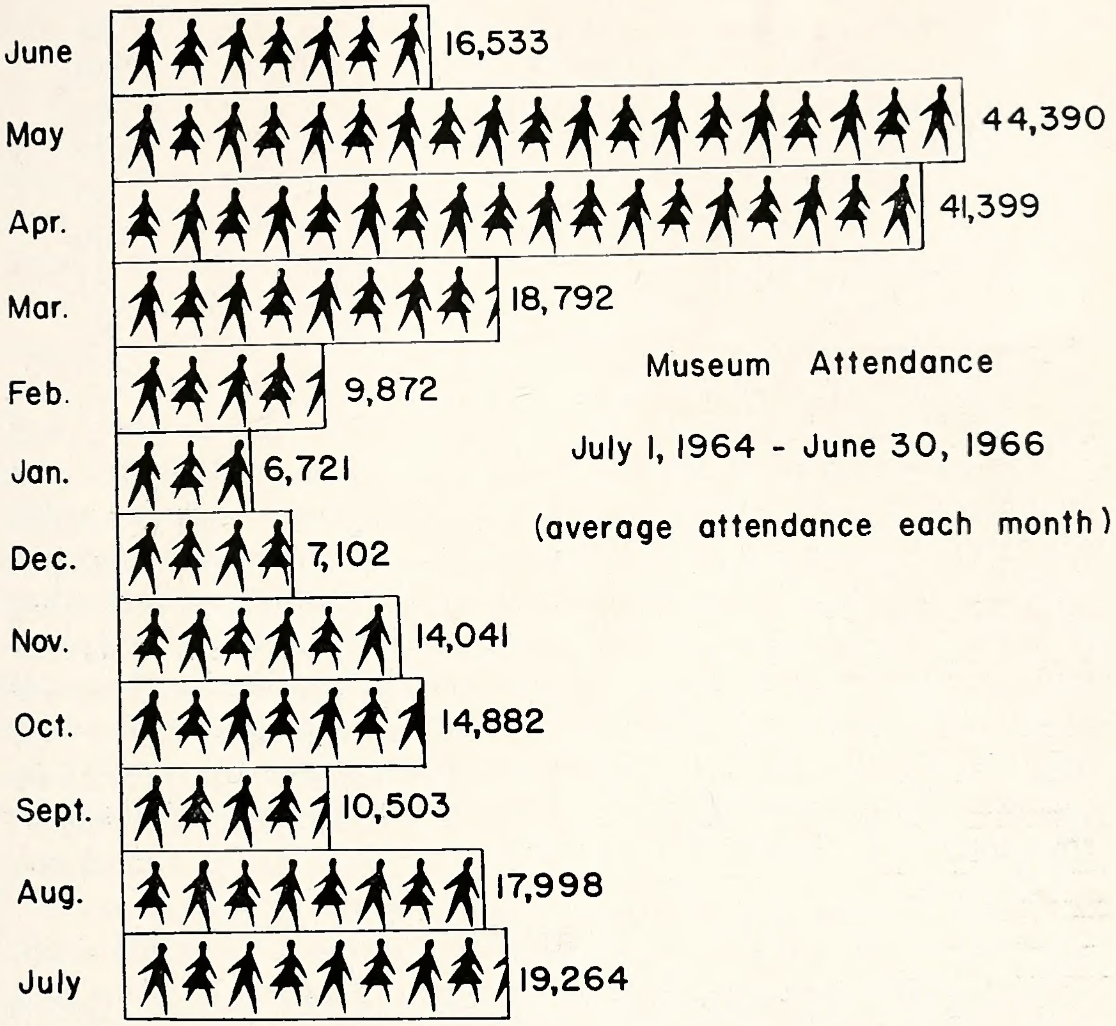


Introduction

The State Museum celebrates two anniversaries. It was 143 years ago that the Board of Agriculture asked its first geologist to make a survey and collection of mineral resources. Then, in 1877, the newly created Department of Agriculture was given the duty "to keep—a museum or collection to illustrate the cultural and other resources, and the natural history of the state." For the past 89 years the State Museum has been an active and integral division of the N. C. Department of Agriculture.

During the early days, the museum placed much emphasis on the mineral, timber, and agricultural resources of the state in order to invite their development and use. In more recent years, emphasis has been placed on the collection and dissemination of knowledge for the people of the state through education, exhibits, and research. With these three activities, the museum is complementing the whole academic system of education by providing real objects from the three "kingdoms" of nature—animal, plant and mineral.

The purpose and service of the museum are more significant today than ever before because of the rapidly increasing and expansion of knowledge of the world in which we live. Techniques and methods are far more advanced than those dreamed of but a generation ago. During this biennium, the museum has made every effort to keep abreast of progress and growth recorded in North Carolina.



Museum Attendance

July 1, 1964 - June 30, 1966

(average attendance each month)

ATTENDANCE

Museum attendance reflects the interest people have in seeing a representation of the natural history of the state. Attendance figures also reflect the flow of traffic through the museum at any given time. The total attendance figure combines school and other group visits with the casual visitor seeking knowledge. During the biennium, the total attendance was 443,141, nearly equally divided for each of the two years. The daily attendance averaged 610, with a high of 4,476 and a low of 23. The museum was closed only for the State holidays of New Year and Christmas holidays and for three days declared closed because of ice and snow.

The combined attendance for the State Museum and the Hampton Marine Museum was 469,226 for the biennium.

The composition of major group attendance during the biennium was as follows:

Colleges	36
High School (10-12 grades)	200
Junior High School (7-9 grades)	1,162
Elementary School (1-6 grades)	928
Kindergarten	39
Scouts	139
Church Organizations	51
Special Education	41
State Hospitals	25
Miscellaneous Groups	77

The groups varied in size from 10 to 170, and all but five counties of the state were recorded. Four groups were from out-of-state. Among the miscellaneous groups were such visitors as 4-H Clubs, Home Demonstration Clubs, FFA Chapters, recreation groups, YMCA's and YWCA's, schools for the blind and deaf, and dignitaries from foreign countries visiting the Agricultural Department and the State Capitol. School-camp groups used the museum as one of their classes in conservation of natural resources. Night opening of the museum was arranged for groups that could not come at another time.

EXHIBITS

One special exhibit in this biennium was "An Introduction to the History of Glass"—a traveling exhibit loaned by the Corning Museum of Glass. This 3,500 years of glass history was on display from mid-May to mid-July, 1965.

Beginning early in 1966, four of 19 proposed cases on Earth Science have been prepared and placed on exhibit. The titles of these four are:

"Planets in Relation to the Sun"
"Meteorites"
"Our Changing Continent"
"Volcanism, Diastrophism, Gradation"

The museum chose this series of exhibits as an adjunct to the earth science curriculum now incorporated in the public schools of the state.

The replica of the Liberty Bell, long housed in the museum, was moved to the State Fair Arena for exhibit use.

Many of the exhibits were updated, cleaned and newly labeled.

WORK PROGRESS

Phil Perkinson, a temporary employee while attending business school, renovated the archaeological materials on exhibit and re-identified and catalogued other collections which were then placed in a suitable arrangement and designated reference collection for storage. Over 4,600 artifacts were identified, catalogued, or their identity verified through research. About 10,000 mineral specimens and 3,300 rock specimens were either identified, catalogued, stored, or placed on exhibit. Approximately 66% of the minerals were from the old museum collection of 1890, and from various State and U. S. Geological Surveys.

Specimens not placed on exhibit were placed in the reference collection. Duplicates, scrap, or specimens without data were placed in the school distribution collection for potential use in the newly introduced Earth Science courses in our public schools. Identification and cataloguing of minerals is now 99 percent completed; archeological specimens 100 percent completed; rock samples 40 percent completed; and fossil specimens 5 percent completed.

F. F. Snelson, a temporary employee while a senior at N. C. State University, worked with the museum's fish research collection. He examined, identified and catalogued approximately 9,760 individual fish, with a total of 2,420 separate entries in the Ichthyology catalogue.

The research collection now has a total of 18,000 individual fish catalogued. Most all the specimens have been cross-filed on separate species cards and are in alphabetical order under the appropriate Order or Family. The majority of fish work done was with the specimens donated at the close of the last biennium by the Watershed Study Program of the N. C. Wildlife Resources Commission. Emphasis was placed on the data relative to the genus *notropis*, shiners, in eastern North Carolina in anticipation of future research leading to a taxonomic and distributional study of this group of fish.

During the past year, a part-time worker, James Hunt, senior in zoology at N. C. State University, has assisted in preparing collections and cataloguing vertebrates. Mr. Hunt plans to do graduate study in ornithology at Louisiana State University.

William M. Palmer, curator of zoology, has nearly completed his study of the distribution, variation and ecology of the pigmy rattlesnake in North Carolina.

Charles Leibrandt prepared 24 bird mounts, 50 bird study skins, 12 mammal skins, one mammal mount, and cleaned 60 bird mounts on exhibit. He restored an 1890 tarpon, made alligator casts, and a fish mount. Mr. Leibrandt worked with a group of girl scouts interested in taxidermy and supervised their preparation of a bird mount, as well as instructed a group in the Pest Control Short Course at N. C. State University on how to prepare skins.

The 1965 General Assembly provided a special one-year appropriation of $15,000 for the museum's use. This appropriation was much needed and appreciated and was equally divided between repairs and alterations and equipment.

With these funds, the front entrance, which had been a bottleneck for an easy flow of traffic and which was quite unattractive, was completely replaced. Also the old cramped receptionist area was abandoned and an attractive cubicle was built and installed in the lobby of the museum. All wooden cases were repainted throughout the museum.

Enough tools, equipment and power machines were purchased to make the exhibits workshop as nearly complete as possible. This has improved the effectiveness and efficiency of this aspect of the total museum program. Additional lumber, hardware and metal products were obtained for construction use, and these will be available for immediate use as the need arises.

The museum is undertaking a complete natural history survey of North Carolina, and progress was made during the biennium in collecting specimens and relative data pertaining to this project. This material is expected to be published in acceptable form for use and study by all.

More emphasis was placed on collecting, cataloguing and preserving fish from the watersheds of the state. As North Carolina continues to have more impoundments and reservoirs built, thus inundating long stretches of small feeder streams, the habitat of certain species of fish are being so drastically altered that these species will not survive.

ACCESSIONS

Accessions are materials accepted by the museum for use in exhibits, or for preservation or research. In some cases collection is made by staff members but, by and large, the greatest amount of material comes from interested citizens who generously continue to "bring things in".

Each accession is considered here as a unit, and may account for one, or more than a hundred, items. Accessions worthy of special note are listed below in their respective areas. The total number of items and some of the donors are named; staff members have been omitted.

Archeology—176: Mrs. Frank Folger, Tommy Brannock, B. B. Joyner, E. O. Brogdon, Z. T. Koonce, Herb Crase, W. J. Lupton, Alvin Tippett, Richard Whitfield.

Mammals—179: Durwood Jones, M. G. Edwards, B. J. Taylor, Andrew Weber, Mike M. Browne, Mrs. Earl Weaver, J. T. Hunter, F. B. Meacham, Robert Wadsworth, M. A. Huggins, Newton Varner, Joel Arrington, Paul Stewart, and Paul Chamblee.

Birds—145: J. W. Chalfant, Paul Will, Eugene B. Pond, W. M. Craven, D. L. Wray, John Parker, Ben Johnston, Mrs. Mary Williamson, and Mrs. John Spain.

Reptiles—821: George and Robert Tregembo, Robert Miller, C. D. Mampe, Jr., D. C. Burkhardt, T. L. Quay, John Funderburg, John R. Paul, T. Carroll Hard, A. J. Bullard, John W. Moore, Lyle Morgan, C. L. Cordes, Mike M. Browne, Mark Thompson, Grady Lipe, D. L. Wray, F. B. Meacham, Tarpon Springs Zoo, Staten Island Zoological Park, Chicago Zoological Park.

Amphibians—1,789: Bernard Martof, A. J. Bullard, George and Robert Tregembo, R. P. Rogers, Nick Elliott, Robert Miller, John R. Paul, T. L. Quay, John Funderburg, J. F. Parnell, Robert Miller, C. D. Mampe, Jr., Jerry D. Hardy, Jr., Archie McLaughlin, F. L. Johns, Alan Kyles, Jerry Brewer.

Fishes—19,674: N. C. Wildlife Resources Comission, W. W. Hassler, Jerry D. Hardy, Jr., Mark Odell, E. E. Stainback, L. W. Wood, John R. Paul, F. E. Hester, Jerry West, Garland Pardue, Jerry Brower, George and Robert Tregembo.

Miscellaneous—18: T. F. Gregory and E. L. Skeen (hornet's nest), Ex-Governor Terry Sanford (Governor's Trophy for jumping frog), R. H. Green (cotton planters), Steve Brown and Mrs. W. T. Norris (rock collections).

LOANS

Since a museum serves as a repository for many items that are not generally obtainable elsewhere, it is called upon many times to help others in special assignments when the need arises. For research and special exhibits, loans have been made to:

North Carolina Wildlife Resources Commission (35)
North Carolina State University (167)
Cornell University (525)
Southern Illinois University (62)
University of Alabama (12)
Louisiana State University (17)
U. S. National Museum (40)
Children's Museums (7)

The museum maintains a library of color slides and film strips pertaining to birds, wildflowers, reptiles, and other natural history subjects. Loans are made, upon request, to schools and other responsible groups. During the biennium 65 sets were sent to fill 51 requests.

GIFTS AND TRANSFERS OF SPECIMENS

1 Salamander (paratype) and 20 fish (paratypes) to U. S. National Museum.
1 Carriage, 1 Indian clay pot, and a collection of 350 apothecary jars of herbs to the N. C. Department of Archives and History.
4 Live snakes to Chicago Zoological Park.
1 Mammal specimen to N. C. State University, Department of Zoology.
1 Whale rib bone to Winston-Salem Science Center.
1 Model of Mt. Mitchell State Park to N. C. Department of Conservation and Development.
2 Snakes to Field Museum of Natural History.
1 Snake to University of Southwestern Louisiana, Biology Department.
40 Mineral specimens to Technical Institute, Goldsboro.
1 Snake to Gaston Museum of Natural History, Gastonia.

PUBLICATIONS

The book, "Birds of North Carolina," which was published through the Museum Extension Trust Fund, has continued to have good sales. Some 1,500 books are now in stock, and about 5,700 have been sold.

A new edition of the bulletin, "Poisonous Snakes of Eastern

United States", was financed through the Fund. Since being released from the press in March, 1966, over 6,000 copies have been sold or distributed.

For the convenience of the public, the following bulletins, published by other state agencies, are sold (at cost) at the reception desk:

Indians of North Carolina
North Carolina Fresh Water Fishes
Forest Trees of North Carolina
Mineral Localities of North Carolina

The multilith series of 30 information sheets—relating to the museum and its contents—are presented in packets to each teacher who visits with a class group; also to other visitors who request this packet. Individual sheets, relating to subjects in which a student or visitor is particularly interested, are distributed at the reception desk or sent by mail upon request. It is estimated that 390,000 copies of the material were passed out or mailed during this biennium. Some schools are reproducing the material for their own use.

It has been our practice to exchange with other museums, or to send to persons showing an interest in our museum by making gifts, separate copies (separates) of this biennial report. One thousand reprints are ordered for this purpose.

Through the Museum Extension Trust Fund, which was initially set up some years ago by Harry Davis, the museum is fortunate in being able to render further service to the public by publishing materials based on its own findings and to secure other inexpensive publications on natural history for resale at the reception desk. The present assets of the Fund on June 30, 1966 were as follows: In savings, $10,480; in checking, $330.00; anticipated sale of materials on hand, $7,550—totalling $18,360.

MEETINGS

It is incumbent upon members of the museum staff to keep abreast of the latest information in their respective fields. To assist with this, the museum has been represented at the following meetings or conferences:

American Association of Museums, Philadelphia	1965
American Society of Ichthyologists and Herpetologists, Morehead City	1965

American Association of Museums, Chicago	1966
American Society of Ichthyologists and Herpetologists, Miami Beach	1966
Carolina Bird Club	4 Meetings
North Carolina Shell Club	3 Meetings
North Carolina Museum Council	4 Meetings
North Carolina Academy of Science	2 Meetings

Members of the staff accepted invitations to speak, or make illustrated talks at over 40 club meetings—civic clubs, book clubs, garden clubs, women's clubs, and church groups; also to several groups of school visitors.

The museum had visitors from the U. S. National Museum, New York State Museum, and the Georgia State Museum, who were seeking information and exchange of ideas relative to museum programs and collections.

ADVISORY COMMISSION

The Advisory Commission for the State Museum of Natural History was established by HB 1027 in the 1961 General Assembly. The duties of this Commission are to formulate policies for the advancement of the museum; to make recommendations to the Governor and to the General Assembly; and to assist in promoting and developing wider and more effective use of the museum as an educational, scientific and historical exhibit.

The newly appointed members of this Commission are: Basil D. Barr, West Jefferson, Chairman; Micou F. Browne, Raleigh; and Mrs. Roy A. Cooper, Nashville. These replaced Linville Hendren, Roy Parker and R. M. Schiele, who were appointed in 1961.

Ex-officio members are: State Forester, Fred H. Claridge; State Geologist, Dr. J. L. Stuckey, who was succeeded upon retirement by Stephen Conrad; Director of the University of North Carolina Institute of Fisheries Research, Dr. A. F. Chestnut; Director of Wildlife Resources Commission, Clyde P. Patton; Superintendent of Department of Public Instruction, Dr. Charles F. Carroll; Commissioner of Agriculture, James A. Graham; and Director of the State Museum, Harry T. Davis, succeeded by William L. Hamnett.

During this biennium the Commission met twice to review the work and activities of the museum, and provided assistance in obtaining a special appropriation, in the amount of $15,000, for repairs, alterations and equipment needed for the museum.

MARINE MUSEUM

The Hampton Marine Museum, Morehead City, a branch of the State Museum, was open to the public from April through September during each year of the biennium. In April 1965 Mrs. Ruth Deyo was employed as curator, replacing Mrs. Adeline W. Land (curator from 1962 through 1964) who resigned to accept a position elsewhere. Mrs. Deyo has served well in her assignment, keeping the museum attractive and interesting to visitors.

The attendance figures reflect the popularity and usefulness of this museum:

July, August, September 1964	6,354
April, May, June 1965	4,430
July, August, September 1965	8,916
April, May, June 1966	6,385

Other than summer visitors from North Carolina, and visitors registered from 32 other states, the museum was used considerably by school groups (71), church camps (20), private camps (16), and youth groups (25).

This museum has 77 marine fish mounts, and one each of the following: Dolphin, pigmy sperm whale, harbor seal; wildcat, osprey; loggerhead turtle and Atantic Ridley turtle; copperhead, canebrake, pigmy, and diamondback rattlesnake. In the cases are toads and frogs, mollusks, rocks and minerals, pottery and artifacts, all indigenous to the region.

PERSONNEL

Harry T. Davis, who joined the museum staff in 1920 and who served as its director for the past 30 years, was named Director Emeritus and Curator of Geology, effective January 1, 1966. Throughout his tenure in office, the museum made its greatest strides toward being recognized as one of the better museums in the country.

William L. Hamnett, formerly Curator of Education, was appointed to the position of Acting Director on January 1, 1966.

Jean DuVal Kane came to us on October 19, 1964, with several years of museum experience, to fill the position of Curator of Exhibits. He has reactivated the exhibits program and has established a creditable workshop for museum use. His plans and ideas for redoing some existing exhibits and creating new exhibits have already enhanced the value of the museum to the public.

Charles Leibrandt filled the position of Taxidermist on April 13, 1965. Mr. Leibrandt's finesse and technique in preparing bird mounts and study skins is outstanding.

James F. Vester was employed March 1, 1966, to fill the new position of cabinetmaker. He is well qualified and his workmanship is making an important contribution to the exhibits program.

Miss Mary Weathers transferred from the Dairy Division to the Museum Division on March 1, 1966, to provide additional secretarial help for the increased staff which was requiring more work than the one museum secretary could be expected to carry on efficiently.

Ernest Jones, Janitor-Messenger, resigned February 15, 1966, to accept a position with the U. S. Post Office Department.

Owen Dunston transferred from the Veterinary Division to the Museum Division on March 1, 1966, to replace Ernest Jones as Janitor-Messenger.

The museum at present has a staff of 11 permanent members effectively performing their individual assignments and joining together in a concerted team effort in maintaining the high degree of efficiency expected from the division.

During the summer months of the biennium, a total of 13 temporary employees served in various aspects of museum work. All were either majoring in biology or teaching, or possessed a special talent that was useful in exhibit and educational work.

Senior Girl Scouts participated in a four-week training program and have since served as guides at the museum on weekends.

UNFILLED POSITIONS

Two unfilled positions are those of Curator of Botany and Curator of Education. These positions were advertised and several applications were received, but none of the applicants were adequately qualified under the specifications required for the position. Every effort is being made to fill these positions.

PUBLICATIONS DIVISION

MRS. M. PAULINE DECOSTA
Director

While the work of the Publications Division is varied, its primary function is the dissemination of information and all of its activities relate to this directly or indirectly. Thus the volume of its work is in direct proportion to the generally increased demands on the entire department.

Each year brings increasing needs for this division to help keep farmers informed of new or changed federal farm programs. Many of these tie in with the work of this department and, in any event, have certain specific applications at the state level which call for cooperative educational efforts between all agricultural agencies. An illustration in this biennium was the change in the tobacco support program from acreage to acreage-poundage allotments. Getting full and complete information on this program to producers in a relatively short period of time, meant that the department and every other agricultural agency must put forth intensive publicity efforts. Through Agricultural Review, special articles and news releases, the Publications Division played its part in the educational process which resulted in grower approval of the new program so important to the economic future of the state's No. 1 agricultural and agri-business industry.

This is just one illustration involving a major change. From year to year there are continuing changes in federal support programs, new federal quarantines, new federal requirements on the use of pesticides or levels of pesticide residues and similar matters, all vitally affecting North Carolina farmers and all very much a part of the duties of this Division as an information office.

There has been an increase also by reason of the more numerous complexities of the department's responsibilities as they relate to consumer services and regulatory programs. The Publications Division shares in all of these matters not only in its capacity as information office but also in its work as a Secretary to the Board of Agriculture which is discussed further on in this chapter.

The wide variety of the division's activities, some recurring frequently, some recurring at prolonged intervals, and some of an entirely non-recurring nature, makes it difficult to categorize the work of the division. Most of the activities, however, fall within four broad categories.

The first is the direct dissemination of information to the public by means of press releases, special articles, and the publication of a semi-monthly paper, Agricultural Review. This biennium has seen a marked increase in the volume of work in this category. This has been occasioned both by reason of expanded activities of the department and by demands on the division from outside for special articles on special subject.

Demands on the Agricultural Review have increased proportionately. Requests for this paper have increased more sharply within this biennium than in any biennium period during the past twenty years. Its mailing list now totals nearly 80,000. This paper which goes directly to farmers and agricultural workers has become each year increasingly effective as a means of bringing agriculture information and programs direct to farmers. With the ever growing need for farmers to keep informed, reader interest has increased both in breadth and in depth. With the cost-price squeeze in farming operations, farm people have found this paper's free "Farm Wants" service increasingly important to them. Other agencies, state and federal, with programs of interest to farmers seek space in this paper and every effort is made to cooperate to the fullest possible extent under the limitations of space.

Keeping pace with increasing demands on the Agricultural Review is a perennial problem. Its mailing list is kept a "live" one in every sense of the word. Names are added only on direct request from individuals wishing it, and the list is purged of names of those who do not themselves notify us of change of address, leaving it to the Post Office Department to do so after a time lapse specified in postal regulations.

Despite these precautions, the list continues to grow at about the rate of 1,000 a year. This is very gratifying to us as evidence of the service this paper is rendering, but it adds to the per-issue cost and cuts into the budgeted funds which must be estimated two to three years in advance. Also, as the mailing list increases demands on the "Farm Wants" space increases proportionately and this, in turn, increases the need for eight-page issues. During this biennium, 14 of the 48 issues printed had to be four-page issues to keep the cost within the funds available. However, "Farm Wants" now leave little room for news in any four-page issue; some printed in this biennium contained nothing but "Farm Wants" and still could not meet the demand for this service in these particular issues.

The second category of Publications Division work is acting as a clearing-house of information for the department. This is a dual-purpose role, serving the department's 18 divisions and the general public as an information center. In this category are many non-recurring services too numerous to list individually. Of a continuous nature, however, is the handling of thousands of requests for information which come to the department by letter, telephone and personal visits.

In its capacity as a clearing-house, the Publications Division is called upon to prepare or correlate various special reports dealing with some or all phases of the department's work. These often involve considerable research.

The director of this division also serves as Records Officer for the department, acting in liaison capacity between the department's 18 divisions and the N. C. Department of Archives and History.

The division's third category of work ties in closely with the first and second. In rendering secretarial service to the Board of Agriculture the division's staff keeps fully informed of not only the department's service and regulatory programs, but of their background as well. This kind of knowledge of the history of departmental programs, the steps in developing regulatory measures, and other such details is essential in our work as an informational division.

In addition to keeping minutes of meetings, secretarial service to the board includes advertising and recording public hearings; writing, codifying, printing and filing regulations as required by law; maintaining a master set of all regulations and responsibility for revising and reprinting the various chapters from time to time. A correlary responsibility is the printing of laws administered by the department, after checking them with the statute books to embody amendments enacted from time to time by the General Assembly. Special projects under this category carried out during this biennium were the recoding of one chapter of regulations, sub-division and recoding of another chapter, and coding of two new chapters. All four of the chapters were lengthy and complicated, requiring many hours of work in setting up the codes, checking and re-checking cross references, proof-reading, etc. These projects were in addition to the usual work of revising regulations for reprinting with all amendments.

The fourth category of activities of this division is editing and printing departmental publications. In addition to Agricultural Review, this includes a series of four bulletins each year, three of which report, respectively, on the inspection and analyses of feeds, fertilizers and insecticides in connection with the department's enforcement of laws covering these materials. The fourth is a market report on tobacco.

A special publication, "North Carolina Agriculture In The State's Economy," was revised and prepared for printing during this biennium. First printed in 1964, the demand for this publication from people in all walks of life has been tremendous. Containing a very comprehensive yet briefly presented summary of the total impact of agriculture on North Carolina's economy, this publication has been in great demand from educators, civic groups, many state agencies and the general public.

PUBLICATION DIVISION NEEDS

As stated earlier, demands on this division increase in direct proportion to increased responsibilities placed in the Department of Agriculture, and to a marked degree in proportion to increasing complexities in agricultural programs of other agencies. As a result, the work of the Publications Division has tripled in the past 10 years without any increase in personnel. The demands have been met only by sacrifices on the part of the entire staff, who have worked overtime, taken leave only a day or two at a time and continuously exerted themselves to the utmost limit.

The division has two items in its budget request which will helped to relieve some of this heavy overload. One is for an additional secretary, which will not only help to relieve an overload on the present secretary, but will also relieve the director and assistant director of some clerical duties which they must perform because the one secretary now in the division has more than she can do.

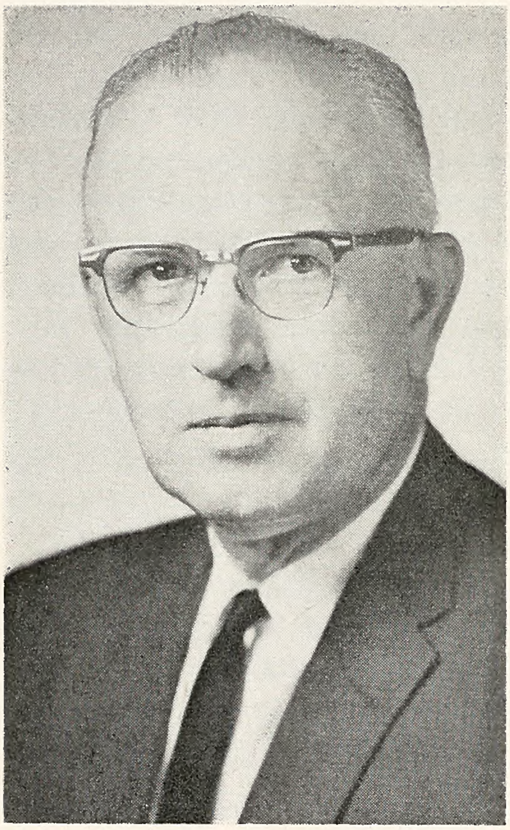
The second request is for a new addressing machine with automatic feeder. Not only is the machine now in use nearly 25 years old, it must be hand fed. With the sharp increases in the Agricultural Review mailing list, running and mailing the 80,000 copies of each issue leaves insufficient time between issues for adding names and making changes on the mailing list. A high-speed machine with automatic feeder will drastically shorten the time needed for addressing and mailing an issue, permitting the mailroom staff not only to keep its mailing lists up to date, but also to do some other work, such as stuffing envelopes for bulk mailing, which must now be taken care of by the secretary.

The information functions of the Publications Division are growing in importance. Members of the press, civic groups, individuals in all kinds of occupations are each year actively seeking information on agriculture and the work of this department in increasing numbers. The growing realization of agriculture as the foundation of a great multiplicity of industries increases the need to know and the number of people who need knowledge. This division's budget requests must reflect its responsibility for meeting the need.

DIVISION OF RESEARCH STATIONS

CECIL D. THOMAS
Director

INTRODUCTION



The Division of Research Stations is a cooperative responsibility of the State Department of Agriculture and the North Carolina State University Agricultural Experiment Station. Its function is to supervise the administrative and operational requirements of 16 research stations located in the different farming regions of North Carolina.

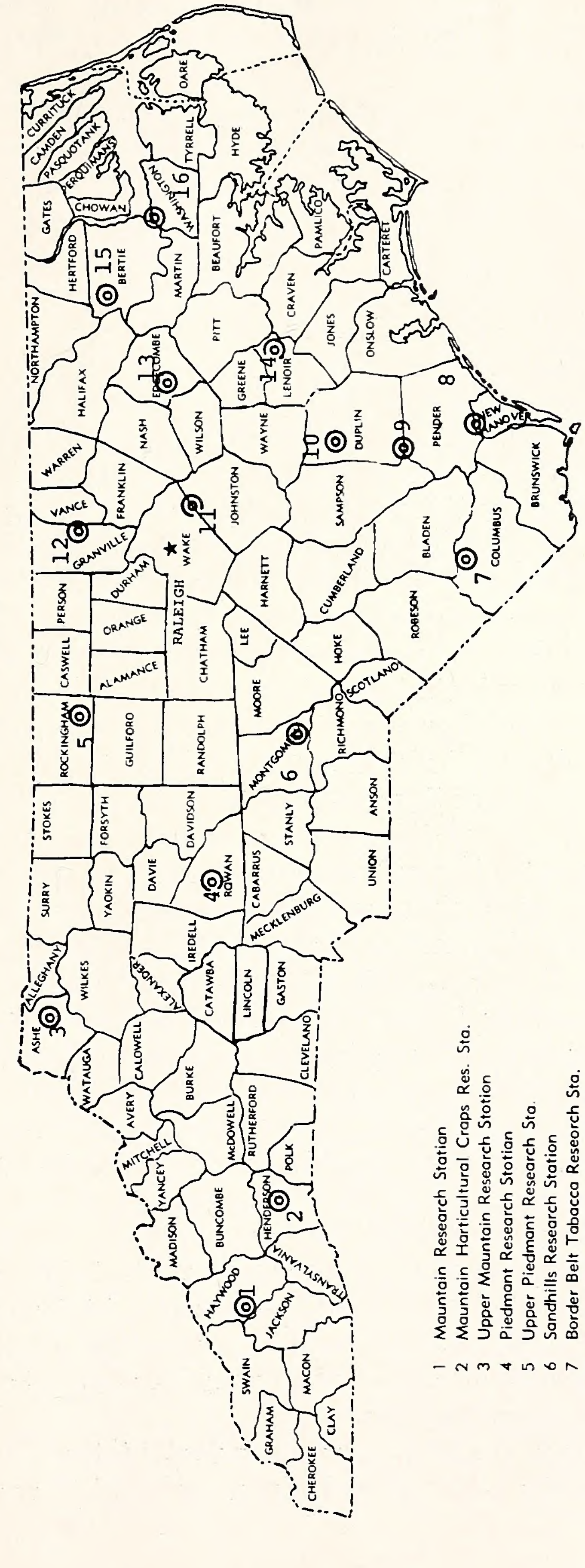
Nine of these stations are budgeted in the Department of Agriculture and seven are budgeted in the Experiment Station. All stations are operated in the same manner and each serves as a branch of the Experiment Station at N. C. State, assuming its responsibility for that segment of the total program assigned to it. Experiment station scientists develop and direct all research projects conducted on the stations.

SIGNIFICANT DEVELOPMENTS

Although certain new developments will be reported by stations, there were several noteworthy occurrences affecting all units in the system. First of all, no capital improvement items were approved for the 1965-67 biennium which means that the orderly development of facilities on the stations to meet the needs of research in these changing times will be retarded. Once there is a setback of this kind, it is impossible to regain lost ground. Also who knows the extent of valuable information not developed for lack of irrigation systems at several of the stations?

LOCATION MAP
RESEARCH STATIONS

N. C. State Univ. Agric. Expt. Station
N. C. Department of Agriculture



1 Mountain Research Station
2 Mountain Horticultural Crops Res. Sta.
3 Upper Mountain Research Station
4 Piedmont Research Station
5 Upper Piedmont Research Sta.
6 Sandhills Research Station
7 Border Belt Tobacco Research Sta.
8 Horticultural Crops Research Sta.
9 Coastal Plain Research Station
10 Coastal Plain Vegetable Res. Sta.
11 Central Crops Research Station
12 Oxford Tobacco Research Station
13 Upper Coastal Plain Res. Sta.
14 Lower Coastal Plain Tobacco Res. Sta.
15 Peanut Belt Research Station
16 Tidewater Research Station

Undoubtedly one of the most significant developments was the initiation of a five-day workweek on January 1, 1966. Although this action was a necessary one, results are far reaching and affect all aspects of research station operations. This is especially significant on stations having livestock, in that the superintendents had to reorganize their systems to include rotations of personnel in order to have someone on duty on Saturdays and Sundays. The change to a five-day week has focused more attention than ever on mechanization and has made machines even more important. With a shorter work week it simply means that the same work will have to be done in a shorter period of time, and to accomplish this more and bigger machinery will be required.

Even though a number of additional farm worker positions were established to enable the stations to go on a five-day week, it has been extremely difficult to fill these new positions. In fact, this leads to a third significant development, and that is the difficulty in employing and keeping personnel. This is particularly true in the farm-worker category and the situation has become more critical during the past two years than ever before. Competition for workers by industrial concerns has become extremely keen and affects the labor supply in all areas of the state, particularly in the Piedmont. It is very difficult to compete with factory wages and the result of this situation is that many of the workers we are able to get do not have the capability required in doing the type of work needed in conducting a research program.

There were several changes in key personnel during the biennium which should be noted at this point. First of all was the retirement on June 30, 1965, of J. L. Rea who had served as superintendent of the Tidewater Research Station for 42½ years. This is indeed a notable achievement in outstanding service to the state. Mr. Rea first served on the Blackland Test Farm at Wenona in Washington County and developed its succcessor, the Tidewater Research Station established at Plymouth in 1943. John Smith, formerly vocational agriculture teacher at Jamesville was appointed superintendent on July 1, 1965.

Ben Kittrell was appointed superintendent of the newly established Lower Coastal Plain Tobacco Research Station at Kinston on February 1, 1965. He came to the organizaton from the post of assistant vocational teacher at Fuquay-Varina. Larry Gardner was appointed farm foreman.

In 1965 Frank Boyette, superintendent of the Coastal Plain Vegetable Research Station at Faison, resigned to accept a com-

Tobacco, the state's Number 1 cash crop, is emphasized at the Lower Coastal Plain Tobacco Research Station in Lenoir County.

mercial job. His successor was Colin Batten.

The research team lost a valuable member late in 1965 with the death of Dr. Luther Shaw, USDA agronomist, located at the Mountain Research Station at Waynesville. Dr. Shaw had made a valuable contribution to agriculture through research with burley tobacco. Harold Ross, located at the station and on the staff of N. C. State University, is continuing the burley program.

Early in 1966, Joe Hall resigned from the position of Dairy Supervisor at the Mountain Research Station and was replaced by Walker McNeill. Also early in 1966 two new supervisory positions were established at the Upper Piedmont Research Station at Reidsville. Graham Tunstall was employed as livestock supervisor and Darryl Dunagan was appointed tobacco supervisor. Also it is to be noted that Stanley O. Tillery became foreman at the Peanut Station in 1965, and Thomas Reynolds was appointed herdsman at the Central Crops Station early in 1966.

There were many developments in physical facilities on the stations during the past two years, and the most important will be reviewed here. The Mountain Station at Waynesville completed and began using a milking parlor for the dairy herd, representing a considerable change from the conventional stanchion barn formerly used. Also an apple grading shed was constructed in

1965, and improvements were made in the orchard area by the grading of additional roads to permit the use of a new and improved sprayer. A new root-stock study was added to the orchard program.

A number of improvements were made at the Mountain Horticultural Crops Research Station during the biennium. An irrigation system, including permanent underground mains and using water from a pond on the station was completed and put to use. A new worker's dwelling was constructed and an old dwelling was renovated, permitting the housing of two workers and their families on the station. Also a metal vehicle storage building and a masonry block fertilizer and pesticide storage building were constructed.

At the Upper Mountain Station a new superintendent's dwelling was constructed and occupied. This replaces a very old dwelling in a poor state of repair. A brood-cow wintering barn, a 36′ x 120′ pole frame structure, was constructed for the beef herd. Two 25 ton silos were erected for the sheep program and improvements were made in hay drying facilities. This station has used a modified flame cultivator on alfalfa fields during the dormant season and obtained fairly good results in controlling the afalfa weevil.

Considerable progress was made at the Piedmont Station in developing land and facilities in support of the research program. The most important single item here was the modification of several buildings in the poultry Random Sample Test which served to triple the number of birds in this project and also provides for the addition of a cage laying system. The purpose of this modification was to provide floor space per bird in line with that being used in commercial flocks. This arrangement will make results of the Random Sample Test more meaningful.

The Upper Piermont Research Station had been operating as a tobacco research facility on the Chinqua-Penn Plantation at Reidsville since 1962. Land areas for this work were limited to certain parts of the farm. In February, 1965, the entire farm was turned over to the University to be operated as a research station. With this came a beef herd of Angus cattle including approximately 70 brood cows, and groundwork was laid for a research program with beef cattle. Since assuming responsibility for the entire farm consisting of 868 acres, much work has been accomplished in reshaping fields, relocating roads and fences and reorganizing the layout in general. These changes were necessary

Board Member David Townsend, Jr., Commissioner Graham, S. J. Childs, agricultural research supervisor, and Board Member Atwell Alexander discuss the department's random sample poultry testing program at Salisbury. A recent special appropriation made possible changes in the program to bring it in line with commercial poultry production practices now in general use.

to provide a good operating layout for research.

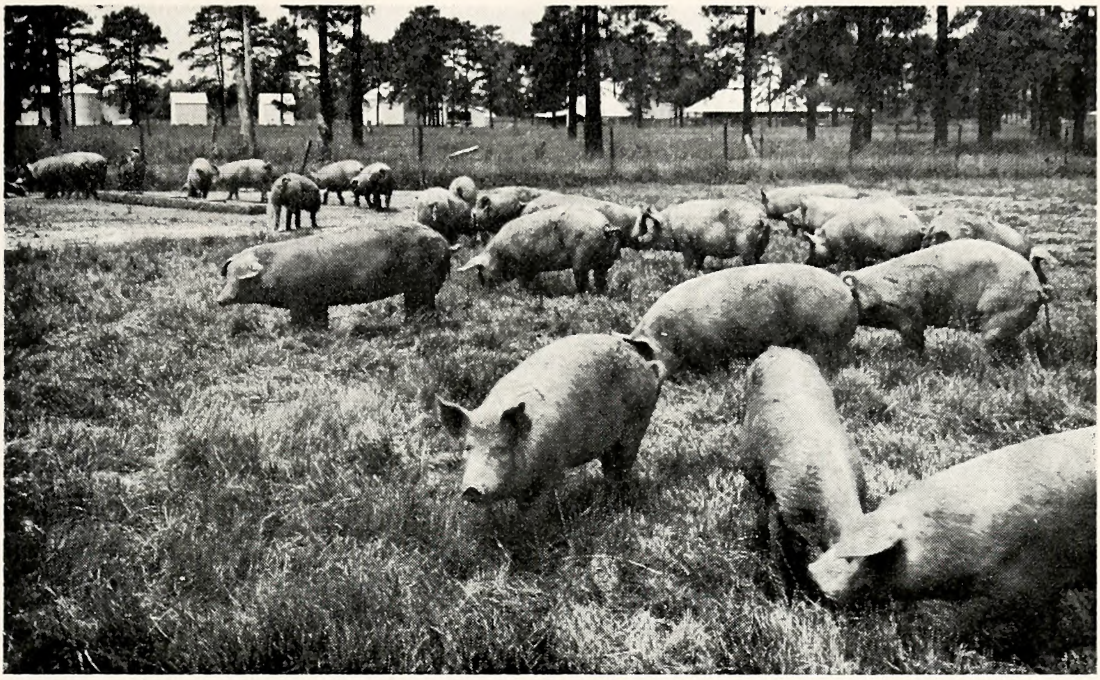
During the biennium there were significant changes at the Sandhills Research Station, the main one being the purchase of additional land to provide a larger area for the important peach breeding program and other lines of research. The tract of land added to the station consists of 161 acres. There was an addition to the research program in the form of muscadine grapes to be used for disease studies. Three cold storage units were purchased and installed to provide for holding studies with fruits.

There were no material additions at the Central Crops Research Station. However, improvements were made in a number of facilities including buildings for the Swine Evaulation Center. Improvements were made to several dwellings and there was further development work on a tract of land on the station which was cleared several years ago. An additional well was drilled near the horticultural building to provide water for that facility.

Improvements to facilities at the Oxford Tobacco Station during the past two years were primarily on U. S. Department of Agriculture buildings. In this category, two new greenhouses with a headhouse-laboratory combination were erected. Also, the USDA Entomology Branch constructed a building for shop work and with insect handling rooms. During the biennium the USDA, with a $500,000 federal appropriation, began planning for an additional laboratory building. It is expected that this facility will be ready for bids early in 1967. A tract of land consisting of 17.2 acres was sold by the state early in the year for industrial use. This land had been declared unsuitable for experimental plot work.

Early in 1965 a Swine Development Center was started at the Upper Coastal Plain Research Station. This facility compares several systems for rearing and feeding out hogs and the types of buildings involved have been of tremendous interest to hog growers in eastern North Carolina. There has been a constant flow

"Blueboy", a new variety of wheat, was developed on the Piedmont Research Station in Rowan County. Shown here, left to right, Dr. Charles F. Murphy, assistant professor of crop science, and Dr. Roy L. Lovvorn, Director of Research, of the North Carolina Experiment Station.



Pigs, "the farmer's friend", are the subject of extensive recearch on the Tidewater Research Station in Washington County.

of visitors to this center since it was dedicated in March, 1965. Also at this station a new superintendent's dwelling was constructed.

At the Peanut Station additional progress was made on clearing and developing land, a project which has been underway since the station was first established. However, land clearing as such is practically completed since this program has already added approximately 200 acres of cropland. During the biennium a masonry block fertilizer storage house was erected and also a pole frame type shed to house experimental peanut curing units for the Agricultural Engineering Department.

A major development at the Tidewater Research Station was the retirement of a long time superintendent which has been reported earlier. The main job of the new superintendent has been in getting acquainted with and continuing operations with changes as required by the research program. One significant feature was the initiation of a surface irrigation project with corn which required considerable work in leveling land for this particular project.

The Lower Coastal Plain Tobacco Research Station at Kinston went into full scale operation this biennium and a dedication program was held on June 23, 1966. Buildings and facilities for the research program have been completed and the first experimental tobacco grown on the station will be harvested and cured in 1966.

The Coastal Plain Vegetable Research Station at Faison continues on rented land, being the only station in this category. An important development here during this biennium has been research in developing a cucumber harvester. This station has served somewhat as headquarters for the engineers in developing a machine which has been tried on the station and on farmers' fields in the area.

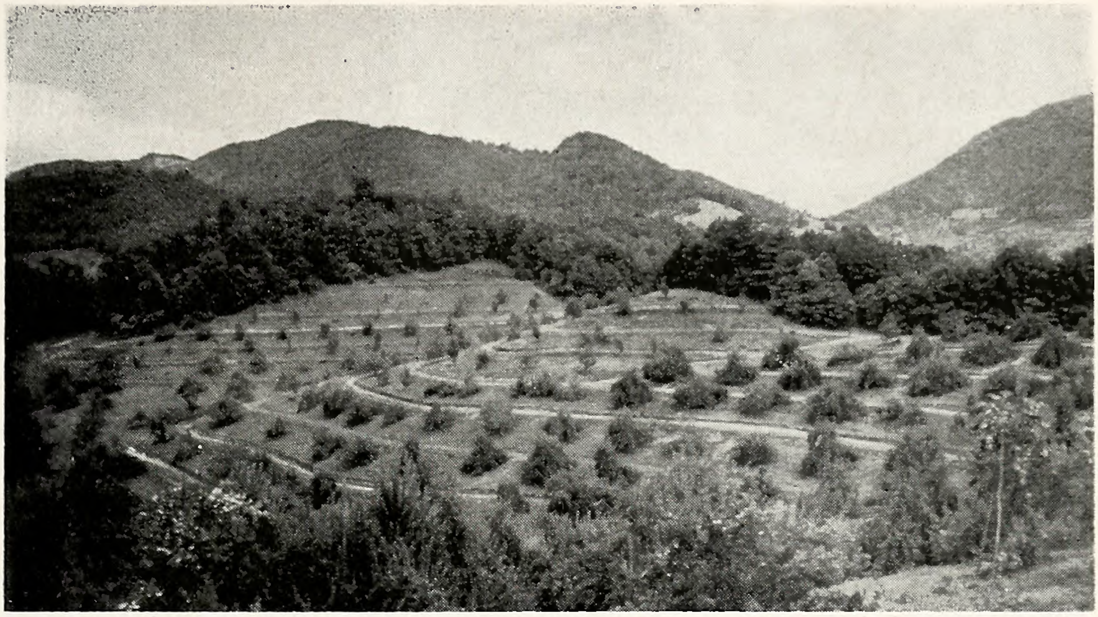
At the Coastal Plain Research Station a cattle lounging barn was completed during the biennium which is a step in the direction of changing from a stanchion barn milking operation to a loose housing system with a Jersey herd. Two silos were erected to provide more feed storage space for the dairy. The purebred Jersey herd attained an average of 10,180 pounds of milk per cow and 525 pounds of butterfat. During the biennium the Experiment Station released a new strawberry variety and much of the work in developing this berry, named Earlibelle, was done at the Coastal Plain Station.

The Border Belt Research Station added five acres of land to the total available for experimental work, this being land which was cleared a few years ago. Also one acre was added for plant bed work. The entrance road to the station was paved, providing better access to research station facilities and to the witchweed laboratory located on the station. A county road running alongside the station was completed, which helps in providing access to certain fields on the back side of the station property. Maintenance of land and facilities reached a high level during the biennium.

Modification of the office and laboratory buildings at the Horticultural Crops Research Station was completed early in the biennium. This was a major improvement and more than doubled work space in this building for research scientists located there.

RESOURCES

Land is the most important resource provided by the 16 stations. In fact, the reason for having outlying stations is to make available to project leaders land on which field experiments may be conducted which serve as an extension of laboratory and greenhouse work and in many cases provide the final test for basic research findings. An adequate amount of land is essential to



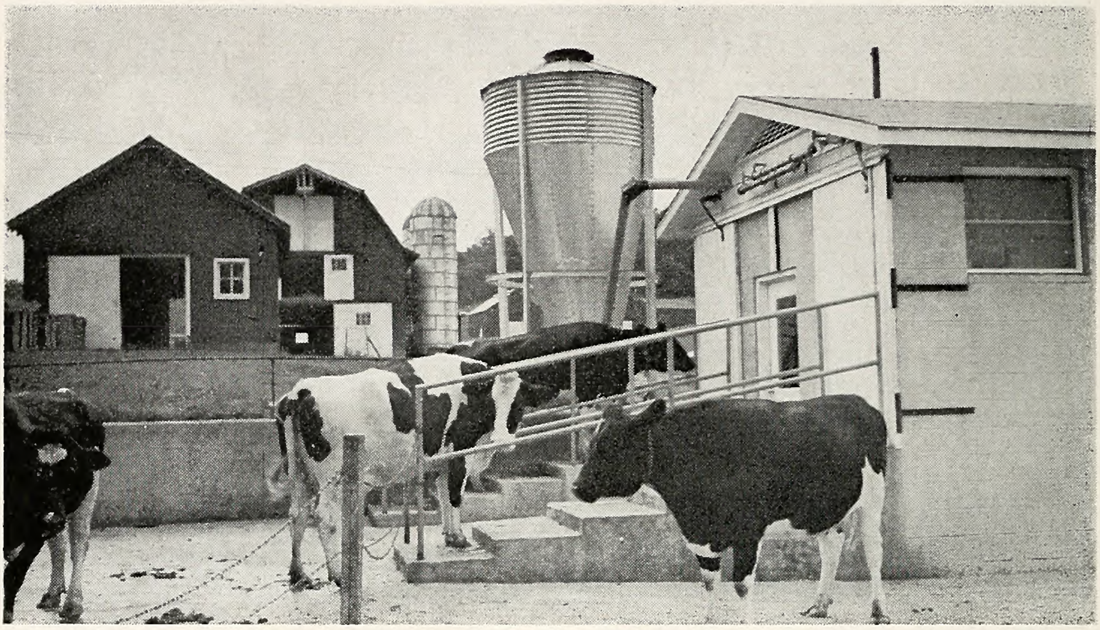
This is an apple orchard on the Mountain Research Station in Haywood County where extensive research work in this area goes on.

allow the project leaders to check results on different soil types, at different elevations, and under a wide variety of growing conditions. Replications or duplications of an experiment at a given location, as well as between locations, give a sounder base for interpreting results from a statistical standpoint.

As of December 31, 1965, there were 6312.7 acres of land involved in station operations and of this 149.9 acres were rented. In addition, the state owns a tract of undeveloped land consisting of 1,064 acres adjacent to the Tidewater Research Station in Washington County. Thus the total of state-owned land in the research stations is 7,376.7 acres.

Of the total acreage included in the stations, cropland amounts to 2411.5 acres, and there are 1,037.1 acres of open pasture. There is considerable woodland which is a normal situation, and a sizeable acreage is used for roads, meadow strips, irrigation ponds, buildings and facilities.

Of the total cropland area, there are 1,383.0 acres of experimental plots. This represents the most intensive use of land possible, because an acre involved in a field experiment is a big area from the standpoint of labor, materials, and supervision required. The many small plots and replications of plots within an acre, hand planting with different varieties in each hill in many cases, the attention required by individual plants to include treatments, tagging for identification, and the recording of results,



A modern milking parlor, such as this one located at the Haywood County station, is important to dairy research.

impose a heavy load on operating and research personnel alike. Although there is no suitable basis for comparison in each instance there are many experiments where care and attention required by an acre would be equivalent to 20 or more acres of the same crop grown on a commercial basis.

All physical resources made available by the 16 stations, as expressed through the inventory, results in a large figure. As of December 31, 1965, the total inventory value of state-owned property on the stations was $3,416,532. This figure includes land values based upon initial cost plus cost of improvements, buildings and other facilities, machinery and equipment, feeds and supplies on hand, and livestock and poultry.

Last but certainly not least is resources in the form of supervisory personnel and labor. Here is the key to successful operation in support of the research program. The management and direction of individual station operations, the semi-technical personnel in charge of certain lines of work, especially livestock, and the labor force for getting the jobs done all make a tremendous contribution to the research program.

THE RESEARCH PROGRAM

Since research is not a function of the Department of Agriculture but is directed by the Agricultural Experiment Station at

LOWER COASTAL PLAIN
TOBACCO RESEARCH STATION
N.C. STATE UNIV. AGR. EXPT. STA.
N.C. DEPARTMENT OF AGRICULTURE
U S D A COOPERATING

The department's new research station, specializing in tobacco research is located near Kinston in Lenoir County. The station was dedicated during the biennium.

North Carolina State, only a brief summary will be given in this report on the lines of work at each station. These are reviewed here to point out the scope of that part of the agricultural research program in North Carolina which is conducted on the outlying stations. The principal lines of work at each station are as follows:

BORDER BELT TOBACCO RESEARCH STATION—Tobacco (varieties, cultural practices, sucker control, fertility studies, tobacco genetics, insect and disease control, plant bed studies,) and new crops.

CENTRAL CROPS RESEARCH STATION—Corn breeding, cotton, soybeans, tobacco, peanuts, small grain, forage crops, special new crops, vegetable crops, orchard (apples, peaches, pears), brambles (raspberries, blackberries, dewberries), muscadine grapes, tobacco plant bed studies, irrigation studies, swine, mechanical tobacco harvesting, peanut harvesting, and corn drying studies.

COASTAL PLAIN RESEARCH STATION—Poultry, dairy, pasture and forage crops, muscadine grapes, strawberries, corn hybrids, soybeans, sweet potatoes, and special new crops.

COASTAL PLAIN VEGETABLE RESEARCH STATION—Vegetable crops (varieties, cultural practices, insect and disease control, processing qualities,) blueberries and sweet potatoes.

HORTICULTURAL CROPS RESEARCH STATION—Vegetable crops (breeding, new introductions, cultural practices, disease and insect control), bulbs (breeding, cultural practices and storage), blueberries and ornamentals.

LOWER COASTAL PLAIN TOBACCO RESEARCH STATION—Tobacco (varieties, disease and insect control, cultural practices, plant bed studies).

MOUNTAIN HORTICULTURAL CROPS RESEARCH STATION—Vegetable crops (fertility, varieties, cultural practices, disease and insect control, processing qualities), orchard and vineyard (varieties, fertility, insect and disease control, dwarf rootstock studies with apples), apples, peaches, pears, apricots, plums, cherries, grapes. Also there is work with strawberries, blueberries, raspberries, and mechanical harvesting of vegetable crops.

MOUNTAIN RESEARCH STATION—Poultry, dairy, burley tobacco, corn breeding, small grain, pasture and forage crops, new crops, orchard (apples), hydrologic studies (TVA).

OXFORD TOBACCO RESEARCH STATION—Tobacco (breeding, variety tests, cultural practices, plant bed management, disease and insect control, curing studies, irrigation), tomatoes (wilt studies).

PEANUT BELT RESEARCH STATION—Peanuts (breeding, cultural practices, rotations, harvesting, curing, disease and insect control), corn breeding, grain sorghum, cotton, sweet potatoes, and weed control research.

PIEDMONT RESEARCH STATION—Small grain, corn breeding, cotton, soybeans, special new crops, forage crops, orchard, dairy cattle, beef cattle, and poultry random sample test.

SANDHILLS RESEARCH STATION—Peaches, apples, other tree fruits, muscadine grapes, and special new crops. Work is underway on varieties, cultural practices, insect and disease control, soils, irrigation, grading, storage, and packing of fruits.

TIDEWATER RESEARCH STATION—Forage crops, corn hybrids, soybeans, small grain, Irish potatoes, other vegetable crops, muscadine grapes, beef cattle, hogs, and surface irrigation studies.

UPPER COASTAL PLAIN RESEARCH STATION—Corn hybrids, cotton, soybeans, tobacco, peanuts, small grain, grain sorghum, forage crops, hogs, beef cattle, weed control, special new crops and surface irrigation studies.

UPPER MOUNTAIN RESEARCH STATION—Beef cattle, sheep burley tobacco, corn breeding, pasture and forage crops, potatoes.

TABLE I. IMPORTANT DATA ON RESEARCH STATIONS

Station	County	Year Established	Acres of Land Operated	Elev. (Feet)	Average Annual (Rainfall (Inches)	Superintendent
Border Belt (NCDA)	Columbus	1949	102.0	95	51.28	Wallace J. Dickens
Central Crops (NCSU)	Johnston	1936	494.7 (1)	350	51.89	William C. Allsbrook
Coastal Plain (NCDA)	Pender	1905	411.5	51	49.86	Jesse W. Sumner
Coastal Plain Vegetable (NCSU)	Duplin	1949	45.0 (2)	160	49.52	Colin K. Batten
Horticultural Crops (NCSU)	New Hanover	1947	59.5	10	56.62	J. M. Jenkins, Jr.
Lower Coastal Plain Tob. (NCSU)	Lenoir	1948	95.2 (3)	70	47.84	Ben U. Kittrell
Mountain Hort. Crops (NCSU)	Henderson	1949	232.1 (4)	2,147	50.25	Harley E. Blackwell
Mountain (NCDA)	Haywood	1908	388.5 (5)	2,800	45.92	J. R. Edwards
Oxford (NCDA)	Granville	1912	330.0	500	45.36	J. M. Carr
Peanut Belt (NCDA)	Bertie	1952	366.0	50	48.92	Wallace R. Baker, Jr.
Piedmont (NCDA)	Rowan	1903	1,054.0	800	45.86	Clyde Z. McSwain, Jr.
Sandhills (NCSU)	Montgomery	1940	508.3	730	46.92	Clarence S. Black
Tidewater (NCDA)	Washington	1912	495.5 (6)	15	53.34	John W. Smith
Upper Coastal Plain (NCDA)	Edgecombe	1902	441.9	100	47.29	Horace R. Cox
Upper Mountain (NCDA)	Ashe	1944	420.5	3,300	53.39	Dana F. Tugman
Upper Piedmont (NCSU)	Rockingham	1948	868.0	830	43.37	Howell O. Gentry, Jr.
Total			6,312.7			

(1) 10 a. rented; (2) 45 a. rented; (3) 12.0 a. rented outlying plots; (4) 8.6 a. used as if owned; (5) 34.2 a. used as if owned; (6) 1064 a. additional owned.

UPPER PIEDMONT RESEARCH STATION—Tobacco (varieties, cultural practices, insect and disease control, plant bed studies), and beef cattle (breeding and management studies).

SERVICE

The 16 outlying research stations in North Carolina serve a valuable primary purpose as field laboratories for experiment station scientists, but beyond this they have become service centers for agriculture in the respective areas of the state. Here there is an opportunity for farmers and business men alike to see experiments and tests in progress and thereby gain basic knowledge of developments which will affect their operations in the years ahead.

Opportunities are provided through regularly scheduled field meetings for the public to see and have explained various research projects being conducted. In addition to field meetings on different commodities, many small groups and individuals stop by at other times for the purpose of making special studies of specific enterprises. A number of classes in agriculture from N. C. State University tour some of the units annually as a part of the student training program. Also there are many visits from classes in public schools in the surrounding area. Occasionally business and civic groups tour a station near them and this practice is encouraged because of the importance of the research program to the general public. Agricultural workers from foreign countries visiting N. C. State University usually are taken to some of the research stations and for the period July 1, 1965 to June 30, 1966 there were 307 foreign visitors reported by the superintendents. The total of all visitors during this same period was 15,129.

Other agricultural agencies use station resources at various times for important phases of their work. Vocational agriculture classes and 4-H Clubs make frequent use of the stations, particularly where there are livestock enterprises, for the purpose of training judging teams, and in some cases holding judging contests. Agricultural Extension workers often bring groups for special studies. Stations with flue-cured tobacco provide for training ASCS personnel in tobacco variety identification. Also very important to the state as a whole is that each research station is an official weather reporting station for the U. S. Department of Commerce Weather Bureau. This serves a very important purpose in developing valuable weather information.

SEED TESTING DIVISION

George E. Spain

Director

Seeds are the most basic of all agricultural supply items. Yet it is more difficult to produce, process, store and preserve the necessary quality of seeds than any other agricultural supplies.

North Carolina agriculture is strongly oriented around crops production. Thus there is an annually recurring need for strong emphasis on seeds.

Seeds are life, and are subject to change in quality with time, fluctuating temperature and moisture conditions, micro-organisms, insects, and impairment from impact in the necessary seed harvesting, processing and planting operations. For practical purposes, seeds are at their highest condition of life when first matured on the parent plant. Every seed handling operation and every element of time or environmental change takes its toll from the life and condition of seeds until eventually they have no value for planting purposes. The specific seed reaction to these elements varies by species and severity of the elements. Consequently, periodic evaluations of seed viability are imperative to be assured of the satisfactory performance of seeds.

The North Carolina Department of Agriculture has responsibilities for suggesting and supporting uniform up-to-date seed laws and regulations equitable to the seed industry and the farmer; requiring complete and truthful labeling of the quality characteristics of seeds; inspecting and testing seeds offered for sale to assure complete and truthful labeling; and making analyses of seed planting quality for farmers and seedsmen that will provide a basis for declarations of quality in merchandizing and use of seeds.

GERMINATION EVALUATIONS

Germination tests are conducted routinely on seed samples by subjecting a representative sample of seeds to environmental conditions of moisture, temperature, and sometimes light, that will effect germination of the seeds. Seedlings are studied by an analyst to determine the percentage of seedlings that are normal and of sufficient quality to develop into a satisfactory plant. During this biennium, germination tests were made on 43,833 samples of crops and vegetable seeds in the laboratory.

PURITY EVALUATIONS

Examinations of seed lots for contaminants of weeds or other crop seeds is highly important. The farmer is constantly battling weed infestations. Weeds that contaminate seeds cause severe problems to the producer or consumer, and must be identified and labeled. This is often of even greater significance if the contaminant causes persistent damage to the farmer's fields (such as Johnsongrass) or introduces toxic or otherwise undesirable substances into food or feed products (such as crotolaria). These severe problem species are designated as noxious weeds.

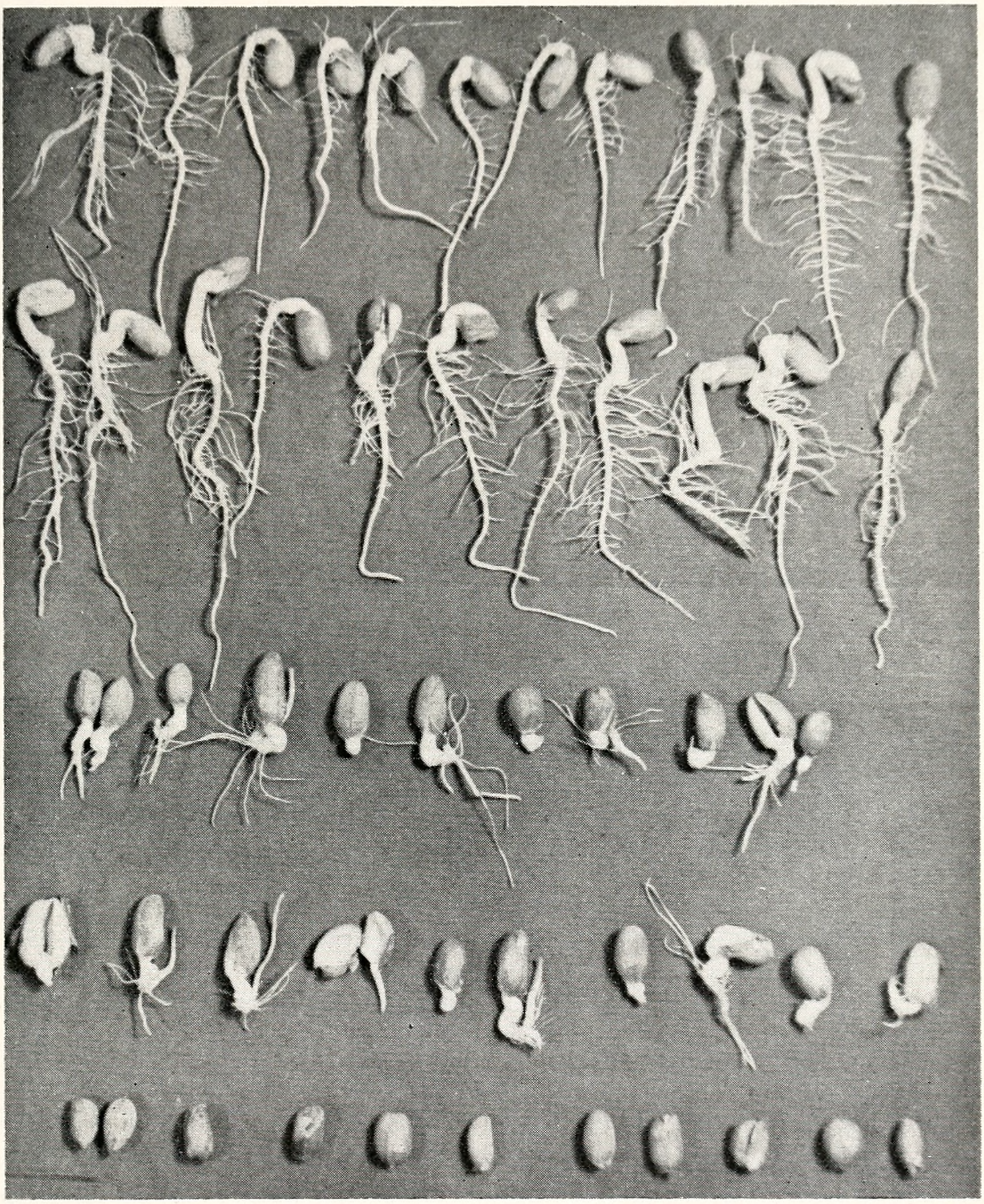
Twenty-one weed species are declared noxious in North Carolina, and their dissemination in crops seed is restricted as much as possible through either prohibition or restricted numbers under required label identity.

During this biennium 12,808 samples of seeds have been analyzed for physical purity in the laboratory.

SPECIAL TESTS

Other than the routine analyses of germination and physical purity, special observations are required on many seed lots.

Genetically controlled characteristics of plants are transmitted through seeds an didentified by variety or hybrid name. The maximum objectives of plant breeding and variety development are not realized unless seeds available to the farmer are pure of



Germination tests on a sample of peanuts show normal seedlings in the top two rows, reported as germinative. The lower three rows show abnormal and non-germinative seeds, none of which are reported as germinative. Tests like these in the seed testing division help protect the farmer.

variety and truthfully identified on the label. In the laboratory variety purity is observed when possible by visual examination. Variety verification plantings have been emphasized for some crop species. In these two years 318 lots of small grains and 245 soybean lots have been sampled and planted for variety verification. As required by the seed regulations, 251 lots of tobacco seeds from all tobacco seed producers have been sampled and planted in cooperation with the N. C. Experiment Station for variety verification. An additional 47 lots of wheat and Kentucky Bluegrass were observed under phenol staining tests for trueness of variety.

Viability evaluations of peanut seeds are difficult for several months after harvest because of dormancy. Preliminary evaluations by chemical test methods are of benefit to growers and processors to screen out lots which are obviously unworthy for seed use. A chemical test is of frequent advantage for an indicator of germination violations of several seed species. During the two years 637 samples have been tested in the laboratory with this method, and more than 200 lots have been screened in the inspection procedures in the field.

Chemical seed treatments may not always be as effective as the treatment labels would indicate. An evaluation of the treatment can be accomplished in several ways. Observations under the microscope and exposure of treated seeds to ultraviolet light are made routinely for gross indications. Also, tests are possible to determine effectiveness of fungicide seed treatments with biological assay methods. Forty-five lots of seeds were tested under bio-assay principles for effective seed treatment determinations.

INSPECTION AND ENFORCEMENT

Seed specialists of the Seed Testing Division routinely visit seedsmen and inspect seed lots available for sale. Seeds are observed for complete labeling, any obvious misrepresentation of quality, and compliance with labeling requirements as to noxious weeds, common weeds, other crop seeds and inert materials. Lots that are obviously mislabeled, misrepresented, substandard in physical purity or incompletely labeled are restricted from sale on the spot. Samples are sent to the laboratory for verification analyses and germination tests. In this biennium, seed specialists made inspections of 29,004 lots of seeds in commerce, and sent samples from 1,886 lots to the laboratory.

Inspection emphasis has been in progress on peanut seeds, cotton seeds and carry-over vegetable seeds for germination labeling. Progress seems obvious, since peanut stands were excellent in 1966 even with the most severe environmental conditions at planting time. Also, cotton stands were very good, even though many were lost after seedling emergence due to severe weather conditions. Other emphasis programs are badly needed, and could be effected with additional resources.

All violations of the North Carolina Seed Law which are detected are published in the *Agricultural Review.*

Seed regulation changes during the biennium were comprised of two weed species being declared noxious. Cocklebur, occurring most frequently in cotton seeds and soybean seeds was limited to a maximum occurrence of 4 seeds per pound if declared on the label. Giant foxtail seeds, found most frequently in lespedeza seeds, were limited to 100 seeds per pound if labeled.

ADDITIONAL SUBJECTS

Cooperative activities are necessary with several other agencies in seed service and seed enforcemnt work. The N.C.D.A. Seed Testing Division receives and tests seeds for certification standards for the North Carolina Crop Improvement Association. Seeds supplied to the Landscape Division, N. C. Highway Department, are tested in the laboratory to verify the quality standards of the bid specifications. Official inspections are made on request. In addition, inspections and analyses are made of seeds supplied to public institutions on state contract.

Technical assistance is provided on request. Numerous samples of feed have been checked for the presence of weed seeds that might be toxic. Grain samples are often received for checking for the presence of fungicidal treatments.

Educational efforts are made when possible. Numerous groups have toured the laboratory. Individuals are welcomed for discussion and explanation. The laboratory director has prepared and presented a number of radio and television programs, presented seed programs for farmer meetings and professional groups, and prepared news articles. The laboratory supervisor and staff prepared and presented educational displays at a seed school for seedsmen, sponsored by the N. C. Seedsmen's Association.

Training efforts are necessary to keep up with methods and techniques for the staff, and to train new members. Four new analysts have filled vacancies and received training in the biennium. Members of the staff have received additional training at analysts workshops and inspector training on three different programs.

Contacts have been maintained with regional and national seed analysts and seed control officials associations. The director and laboratory supervisor are serving their respective interest associations in committee service functions.

NEEDS

Quality seeds are imperative for progress in an agricultural economy with heavy emphasis on row crops. The seed program in the North Carolina Department of Agriculture can be strengthened considerably if there is enough concern and the necessary resources are brought to bear on the problems.

Evaluation techniques are being refined, and unfortunately the more precise the technique, the more time and talent is involved. Yet farmers cannot well be denied the advantages of more precise seed quality evaluation.

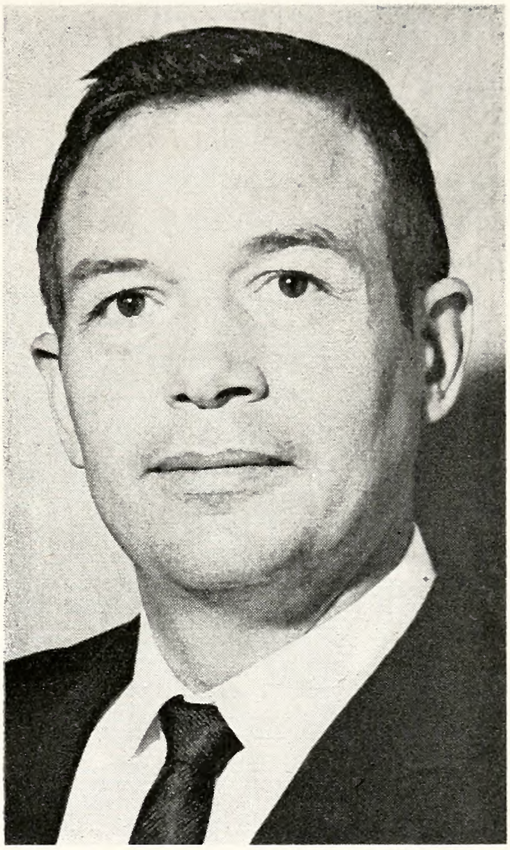
Recent regulation changes of noxious weeds in cotton will require purity evaluations on 2,000 or more samples that were previously exempt. The inspection and analytical needs related to the Landscape Division samples, the N. C. Purchasing Agency samples and N. C. Crop Improvement samples become more burdensome each year. A considerably larger number of samples from inspectors should be sent to the laboratory for germination analysis, but the laboratory cannot expand further without additional resources.

More inspection emphasis is necessary. Far too many lots of seeds are sold that have not been sampled by the seed specialists of the division. Yet, the inspectors cannot see any more lots than they presently see. Each specialist has approximately 20 counties to try to cover. They are spread out too much.

An additional analyst and specialist are requested to help meet these needs. Actually the needs in seed analysis and inspection require much more, and will need even further adjustment to do justice to the responsibilities we are trying to serve.

SOIL TESTING DIVISION

PRESTON H. REID
Director



"When will you begin analyzing our soil samples for trace elements, or nematodes? or pesticides?" have been ever recurring questions which the farmers of North Carolina have been asking the Soil Testing Division. This vital interest in these and related questions is indicative of the tremendous interest which North Carolina farmers have in taking advantage of every possible new development in order to increase the efficiency of production on their farms.

In this biennium many changes were made in soil test procedures and means of reporting in order to supply the maximum services to North Carolina citizens which the budget and physical facilities would allow. Accuracy and precision have been increased by changes in instrumentation. Time-motion studies were made the results of which have enabled the laboratory to handle the greater number of samples and perform the additional analyses which are so desperately needed.

The acquisition of two atomic absorption spectrophotometers have made it possible to expand the facilities of the Soil Testing Division. In the past year, 3,105 magnesium and 753 manganese determinations were made. These determinations were made only when requested by farmers who had particular problems in their field. However, effective July 1, 1966, manganese will be determined on all samples from peanut and soybean fields. The increasing occurrence of manganese deficiencies on these crops have indicated that it is essential to make these determinations if the farmers are to be able to fertilize their crops for the best production.

During the 1964-66 biennium, the Soil Testing Division analyzed 144,429 soil samples for 32,765 farmers. An additional 24,881 samples were analyzed for North Carolina florists, North Carolina State University, and other research organizations.

In the 1965-66 testing season, 6,273 samples from home lawns and gardens were analyzed for 3,352 homeowners. The increasing use of the testing service by urban homeowners reflects another way in which the Department of Agriculture is serving the consuming public. The contribution which this division can make to the beautification of North Carolina should have a great influence on making North Carolina a better place in which to live.

In cooperation with the Soil Science Department and the Agricultural Extension Service of North Carolina State University, numerous meetings were held with farmers, county agricultural leaders, and commercial agronomists to train them in the importance of soil testing, its limitations and how to get the most from the results. Report forms were changed to simplify reporting and to encourage farmers to use the fertilizers which are best adapted and most economical under their conditions.

Tours of the laboratory were provided for all of the students of Soil Science at North Carolina State University and for many vocational agricultural classes and farmer groups. Agronomists from at least 27 countries in Europe, Asia, Africa, and Latin America visited the division during the biennium seeking information about the methods and principles of soil testing.

Soil samples were exchanged periodically with other commercial and state laboratories so that uniformity of methods and recommendations can be attained across state lines.

Many fertilizer and chemical companies have foreseen the need and value of soil testing as a service to farmers. Some of the companies have found it desirable to establish their own laboratories. A voluntary program was developed wherein the Department of Agriculture will work very closely with these laboratories in order that their analyses and recommendations will be in line with the research findings of the North Carolina Experiment Station. At least three such laboratories are waiting to begin operating, as approved laboratories, under a program of cooperative exchange of ideas and continual cross checking.

Facilities were established for the analysis of feeds, silages, and grains and other forages to provide a service whereby livestock producers may determine the feed value of their home grown feeds in order to calculate the amounts of concentrates needed to supplement an animal's diet. Considerable revision and modification of existing facilities were necessary for this, but progress has been good and we expect to be in business by the fall of 1966. Because of the limited facilities for this operation, it will be necessary to operate on a very limited basis until additional space becomes available.

FUTURE PLANS

In order for agriculture to meet the demands for high quality products which the consumer demands while meeting the cost-price squeeze, efficiency of production must be raised to the highest level. The value of North Carolina's agricultural production in 1965 was approximately $1.4 billion. Businesses dependent upon agriculture, such as fertilizer industries, pesticide industries, farm machinery suppliers, textile manufacturers, retailers, and food processors and retailers, etc. contribute several times this amount to the state's economy. The very future of North Carolina depends on the steady and rapid growth of agriculture to supply the food, fiber and raw materials for its industry and its population.

Agriculture has become a very complex industry as the efficiency of the farmer has increased and technological advances have been made. In order for the farmer to receive maximum returns on his investments, it is necessary for him to follow a complex program of cultivation, soil testing, insect, disease and weed control and other production practices. To take advantage of the latest technological developments and be able to market a high quality product which is free of disease, blemishes, nematodes, pesticide residues, and other unfavorable attributes, it is necessary for his soil, water and growing plants to be analyzed frequently to determine the concentrations of plant nutrients, pesticides and nematodes present in the soil and in the produce.

The North Carolina Department of Agriculture has a long history of service to agriculture. The Soil Testing Division which was established in 1938, is an example. In the first year of operation (1940) 6,500 samples were analyzed. The use of this service has increased steadily and in 1965 nearly 107,000 samples were analyzed for North Carolina farmers and homeowners. It is impossible to measure the benefits which this service has provided; but the rapid increase in average crop yields and the corresponding acceptance of soil testing as an essential step in the production program, attest to its value. The soil test program has expanded to the point that much additional space and equipment are needed.

Other technological advances have created the need for other services which presently *are not available* from any state agency Services which must be made available as rapidly as possible in order for the agriculture of the state to develop on a sound scientific basis are:

1. **Tissue Testing:** The value of chemical analysis of plant parts in diagnosing plant nutrient deficiencies is recognized the world over. As a supplementary tool for soil testing this program will provide a service in which farmers can obtain a rapid diagnosis of problem areas and often make corrections in that same year.

2. **Nematode Assay:** Nematodes constitute one of the principal limiting factors in agricultural production. Not only are the yields frequently and seriously reduced, but the quality of the produce is lowered by their damage. Determination of the nematode population of fields will make it possible for the farmer to know whether or not control measures will be necessary before his crop is planted. There are no known control measures which can be used after the crop is growing.

3. **Pesticide Residue Analysis:** The judicious use of pesticides is essential to sound agricultural production. But for the health of the population, their use must follow rigid safety standards. There is no place in any state agencies where a farmer can take a soil, plant, water, or produce sample to have it analyzed to determine if it is safe to use or safe to place on the market. The need for this service is obvious.

4. **Feed and Forage Testing:** In order for producers to utilize home grown feeds for farm use it is necessary to balance the livestock ration through the use of concentrates and supplements. Because forages and feed grain vary tremendously in composition, depending on the environment under which they are grown, it is necessary to ascertain their composition in order to provide the best feeds for efficient production in the dairy, beef, poultry and swine industries.

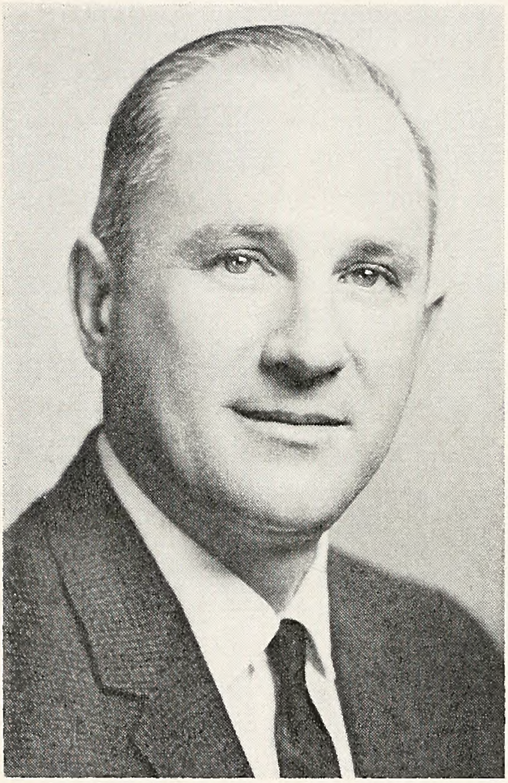
Plans have been prepared to expand the Soil Testing Division into an Analytical Services Division which will provide the above services in addition to the soil testing services now offered. To house the expanded facilities will require the construction of a laboratory building, properly equipped, and increases in operational funds to staff and operate it. It is estimated that the building will cost approximately $1,370,000 to build and equip. This is an investment of less than one-tenth of one per cent of one year's agricultural production. Increases in operational costs will amount to approximately $414,812 which would be partially defrayed by fees. It may be anticipated that the demand for these services will increase in the future, in much the same manner that soil testing has grown.

Each year the number of farms in North Carolina declines. This means the responsibility of producing food and fiber for an increasing number of people is the responsibility of fewer farmers. It is only by taking advantage of all technological developments that the farmers will be able to accomplish this. The North Carolina Department of Agriculture has a real responsibility to these particular farmers to provide the services which will make it possible for the farmer to keep North Carolina the leading agricultural state in the world.

THE STATE FAIR

ARTHUR K. PITZER

Manager



The State's Biggest Show, and the show window for all communities of the 100 counties in Tarheelia, North Carolina State Fair is a division of the Department of Agriculture. It is charged by law with the task of producing the annual exposition, but given only its own revenue with which to maintain its properties, pay its personnel, and produce the exposition.

No tax monies are provided even for payment of premiums, which have amounted to over $62,000 annually.

Some tax money was provided for erecting the original exhibit halls in 1927; tax money paid for the erection of the J. S. Dorton Arena (1949-52); tax money paid for some of the paving and storm sewer installation (1959); and now some tax money is being used to improve the swine barn and to better the water and sewer systems.

Improvements in the water system are being completed in time for the 1966 State Fair. The 1965 appropriations for utilities was only sufficient for the water and sewer work. The electrical system work could not be included due to lack of funds.

The special $37,500 appropriation for improvement in the swine barn was adequate. The skylights and the concrete floor have been installed and the new all-metal pens will be used this year for the first time.

Being replaced this year, also, is a section of the permanent lunch stand area. Eight stands were burned in 1965 a few days prior to opening of the Fair. Tents were used to house the stands.

The chances for a similar fire to happen again are being greatly reduced. Now the number of hydrants on the grounds is being increased from five to 15, and the standing pressure will be increased from about 15-30 pounds to 85 pounds, with the new feeder and distribution mains reaching all areas of the grounds.

A rising gross income of the annual State Fair has been accompanied by a rising operation and maintenance cost. However, further marked increase in income will be limited by lack of additional space, indoor and outdoor, and the inadequacy of many of the present buildings and other facilities.

In order to gain increased income from non-fairtime users of buildings and to improve the annual production of the Fair, this division needs authorization for a "Use and Development Study" of the entire area about the Fairgrounds. This study should be made by a competent engineering-planning firm with wide experience in building outdoor amusement plants.

Too, this study should be coordinated with development plans of the educational institutions and industrial development organizations, as well as the entertainment industry of the Raleigh-Durham and Chapel Hill areas. Insofar as practicable, the facilities should be of multi-purpose nature to serve the Fair and, at the same time, fill the pressing needs of these institutions, industries and departments of State Government.

A need for planning of an overall nature will be brought into sharp focus on Saturday, October 15, when the final day of the Fair and a football game at the new Carter Stadium will jointly inconvenience many North Carolinians; overtax approach highways; mix up "free" and "pay" parking lots to the consternation of hundreds of football fans; and worry the daylights out of the traffic control officers of the State Highway Patrol assigned to solve the movement of 150,000 people into and out of State Fair and at the same time move 40-50,000 people into and out of Carter Stadium. As yet, the State Fair does not know how many acres of land it has lost to Carter Stadium and to the approach highways now being completed. But it will amount to a lot of parking spaces.

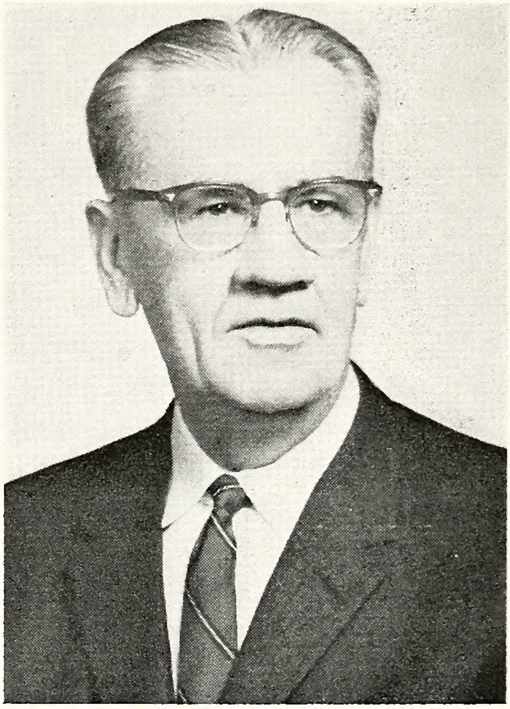
However, there is now undeveloped State University property adjacent to the Fairgrounds, and there is private property yet undeveloped also adjacent to the Fairground property, which can be secured for parking area and future development of the Fairgrounds. Steps for its acquisition should be taken now before it is bought up for residential or commercial development.

Year	*Revenue*	*Improvement, Maintenance of Grounds*	*Premiums Paid*
1965	$472,409.54	$ 81,368.73	$62,450.96
1964	404,176.83	102,199.35	57,902.49
1963	482,348.70	97,282.42	59,391.79
1962	465,979.33	90,945.77	58,956.18
1961	379,865.58	69,600.71	53,697.47
1960	365,187.26	64,650.96	53,003.53
1959	295,460.35	59,057.53	52,429.56
1958	346,017.41	40,736.56	51,767.59
1957	268,159.77	33,442.33	49,649.62
1956	282,032.88	35,141.53	49,290.73
1955	320,932.18	28,182.03	46.904.75
1954	273,365.51	23,108.17	43,152.80
1953	302,566.79	34,293.53	41,979.35
1952	276,214.58	55,187.48	37,842.71
1951	258,340.60	44,311.22	31,075.50
1950	212,455.58	19,383.29	30,650.00
1949	233,523.22	25,635.68	28,550.00
1948	196,924.72	26,174.24	25,332.75
1947	166,312.27	34,639.31	20,283.00
1946	220,544.03	36,855.35	14,499.50
1942-45	(No Fair)	26,170.43	
1941	101,856.00	11,969.92	18,775.25
1940	80,742.52	7,379.71	17,254.25
1939	72,128.72	8,549.40	16,677.75
1938	78,599.32	7,358.78	15,383.00
1937	68,867.01	10,793.01	12,664.92

DIVISION OF STATISTICS

HENRY L. RASOR

Statistician in Charge



The Division of Statistics collects and disseminates statistics on such things as acreage, yield, and production of crops, production of livestock and poultry, prices received for agricultural commodities, prices paid by farmers for items used in agricultural production and in family living, farm employment, and farm wage rates.

These statistics find a wide range of users. They help the farmer to chart a course leading to increased efficiency in production and marketing of agricultural products. They help processors and distributors to adopt more orderly marketing methods. They benefit both producers and consumers. They help lending agencies make decisions in the financing of a wide range of agricultural businesses. They help manufacturers and suppliers of farm machinery locate their best markets. They provide the basis for government action in the fields of production control, allocations, price support, conservation, and foreign trade.

The demand for agricultural statistics has grown through the years and especially during the past quarter century of dynamic gains in U. S. agricultural productivity and expanding worldwide food needs. The necessity for timely data on agriculture generally acknowledged today was only narrowly admitted back in 1839, for example, when the United States Congress grudgingly appropriated $1,000 for the patent office to collect farm statistics and distribute seeds.

The U. S. Crop Reporting Service was formally organized within the United States Department of Agriculture in 1866, and it is observing its centennial celebration during 1966. Over this period of years, considerable progress has been made in bringing together the type of agricultural statistical information necessary to the economy of our nation and of the individual states. Progress which has been made may be attributed in very large measure to assistance provided by state governments working in close cooperation with the United States Department of Agriculture.

North Carolina was among the first states to recognize the importance of a strong State-Federal Crop Reporting Service, and for more than 50 years the state has benefited through the pooling of its resources with those of the federal agency in the organization of the Division of Statistics, whose responsibility is the preparation and dissemination of comprehensive agricultural statistics not only at the state level but at the county level as well.

Current estimates and forecasts at the state level, considered primarily the federal responsibility, are derived largely from sample data collected at frequent intervals from farmers throughout the state and from handlers and processors of agricultural commodities. These data are processed and analyzed by trained statisticians in the preparation of some 500 separate reports per year, involving several thousand individual estimates and forecasts.

Estimates at the county level, the primary responsibility of the state agency, are made possible through the annual State Farm Census surveys providing practically complete enumeration of individual farm data from which final determinations of crop acreages and livestock inventories are developed for each of the counties within the boundary of the state.

The Statistic Division is continually striving to improve its sampling technique in the collection of basic information through which the various estimates are compiled. Probability sampling techniques are being utilized with increasing intensity in an effort to further refine the accuracy of crop and livestock estimates.

The ever-increasing demands for information and the resulting increase in volume of sample data to be processed, made it necessary for the division to develop more efficient methods in data processing. Accordingly, the federal agency, early in 1966, provided an automatic data processing installation which is greatly increasing the efficiency of the division in the processing of its sample data.

North Carolina can take pride in the important contribution its agricultural enterprise makes to the over-all economy of the state. Also, it is gratifying to know that its farmers have continued to take advantage of improved technology developed under the leadership and professional guidance of state and federal specialists in keeping abreast of the nation in improved production efficiency. As an agricultural state North Carolina ranks high among the states of the nation. It is the leading state in farm population and among the leaders in number of farms. Approximately two-thirds of the nation's flue-cured tobacco is produced in North Carolina, and more than 40 percent of the nation's crop of all tobacco is grown within the state.

In total agricultural income, North Carolina generally ranks from 10th to 12th among the states of the nation. Among southern states, the value of its agricultural enterprise is second only to that of Texas. Cash receipts from marketing of crops, livestock and livestock products by North Carolina farmers in 1964 more than exceeded the combined total received by farmers in Delaware, Virginia, and South Carolina.

It is not surprising, therefore, to find an ever-increasing demand for the information about North Carolina agriculture which is made available through the Division of Statistics representing the State-Federal Crop Reporting Service. During the course of a year, more than 400,000 copies of bulletins and other published reports are distributed to the public at its request. These requests are received not only from persons and concerns within the boundaries of the state but from all other states in the union and from foreign countries also.

Although the division attempts to provide a vast amount of information in published form readily accessible to the public, it is often called upon to provide information not readily available in published form. The responsibilities of the division are of a service nature, and every effort is exerted to provide assistance in bringing together information demanded by the many thousands of people who have an interest in the agriculture of our state.

VETERINARY DIVISION

Dr. T. F. Zweigart
State Veterinarian

The primary function of the Veterinary Division is to prevent, control, and (when possible), eradicate the transmissible diseases of livestock and poultry. Our activities include service and regulatory functions. This is accomplished through administration of the applicable laws and regulations promulgated thereunder by the Board of Agriculture, and operation of animal disease diagnostic laboratories.

Left uncontrolled these diseases would make our livestock and poultry industries uncompetitive with other states. In addition, other states and foreign countries would place restrictions on importations from North Carolina. Human health is also involved since many diseases which affect animals are transmissible to man.

North Carolina has long been a leader in the control and eradication of animal diseases and there is no reason to sacrifice this leadership and its attendant advantages.

A summary of the Veterinary Division's activities during 1964-1966 follows:

Tuberculosis

The incidence of this disease has continued to decrease during the biennium. This decline should not be reason for complacency. A relaxation of testing and preventive measures would result in tuberculosis again becoming a widespread hazard to human and animal health. Most of our attention has been directed towards eradication in cattle, but tuberculosis in swine and chickens is also of economic and public health importance. During the two years of this biennium 353,012 cattle in 11,301 herds were tested and 114 reactors, involving 65 herds, were discovered.

BRUCELLOSIS (Bang's Disease)

Brucellosis affects most species of farm animals and man, but our efforts have been directed mainly toward eliminating the disease in cattle. Tests may be conducted on blood or milk. The latter is referred to as the Brucellosis Ring Test and is run on pooled samples from the herd. Each test has its place and one does not necessarily replace the other.

In addition to collecting blood samples from cattle on farms and at stockyards, many are collected from cattle at the time of slaughter by federal and state meat inspectors. Animals which show evidence of the disease can be traced back to the farm of origin by back tags which were applied as they passed through stockyards.

Vaccination of calves four to eight months of age against brucellosis is widely practiced in this state. This confers a high degree (although not absolute) of protection, but has a disadvantage in that a small percentage of those vaccinated react to the brucellosis test when tested even as mature cattle. Nineteen counties are now classified as Brucellosis Certified Free and 81 Modified Brucellosis Certified, as compared with 12 and 88 respectively at the end of the last biennium.

Brucellosis in hogs has not received the attention it deserves; the incidence has not been determined but is suspected to be quite high. There is no state or federal control program for the disease in this species. It will be necessary to eliminate brucellosis in swine before it ceases to be a problem in cattle and humans.

Summary of Brucellosis Blood Tests

	1964-65	*1965-66*
Number of herds tested	19,381	14,675
Number of cattle tested	300,351	258,219
Number of infected herds	250	220
Number of infected cattle	454	361

Summary of Brucellosis Ring Test

	1964-65	*1965-66*
Number of herds	18,251	20,802
Estimated number of cattle	534,990	629,670
Negative herds	18,084	20,725
Suspect herds	167	77
Number calves vaccinated	28,617	27,188

HOG CHOLERA

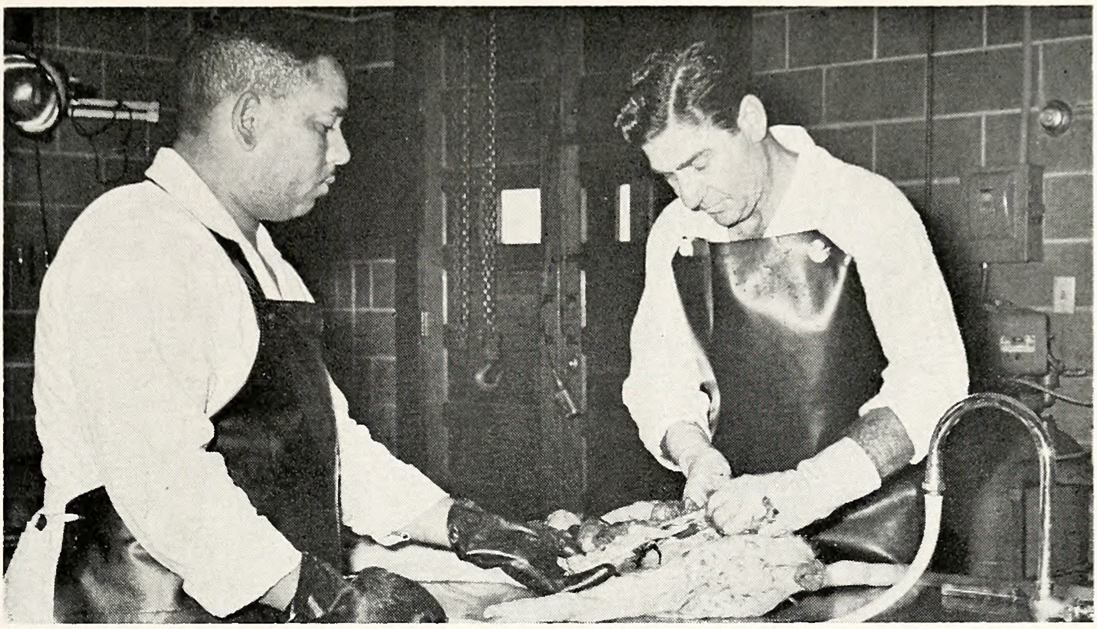
Largely due to the application of the four-phase state-federal hog cholera control and eradication program the incidence of the disease has been greatly reduced during the biennium. Our ultimate goal is complete eradication of hog cholera, so we will not be successful as long as even one outbreak occurs.

Until a few years ago, making a positive diagnosis of the disease presented a problem. This has now been solved. With laboratory assistance the disease can be diagnosed with a very high degree of accuracy. The problem of having it reported early by practicing veterinarians and controlling the movement of sick and exposed swine has been resolved to an acceptable degree.

Two important obstacles remain. These are securing the proper vaccination of swine, and the control of garbage feeding. There is no way of compelling vaccination, so it must be accomplished by a process of education. As the incidence of the disease decreases, and with it the threat of infection, farmers become increasingly difficult to convince that vaccination is a profitable procedure.

We have a workable garbage feeding law but have found that full compliance is seldom voluntary. Garbage feeders are many in number and widely scattered. It often is necessary for our inspectors to locate a garbage feeding operation, rather than the owner reporting it and securing a permit as required by law.

It can be seen that the hog cholera control and eradication program does not stand alone but interrelates with other activities of the division. For instance, we sometimes locate infected herds by tracing back sick animals taken to stockyards or slaughtering plants.



The necropsy or post-mortem examination is also performed on other animals, such as this pig, to determine which disease is causing losses in herds, so that the farmer's remaining pigs can be treated.

With emphasis on both large and small animals, the central diagnostic lab works for the farmers and livestock men to determine what is the trouble in their herds and flocks. Here a staff veterinarian and his assistant perform a necropsy on a sheep.

STOCKYARD INSPECTION

There were 47 stockyards in the state as of June 30, 1966. With few exceptions all hold weekly sales. Inspectors from the Veterinary Division are responsible for seeing that these markets are operated in compliance with the law and regulations which apply. Frequent inspections are made to assure that the facilities meet our standards for sanitation, that sick animals are not offered for sale, that the proper vaccinations and tests on animals are conducted, etc.

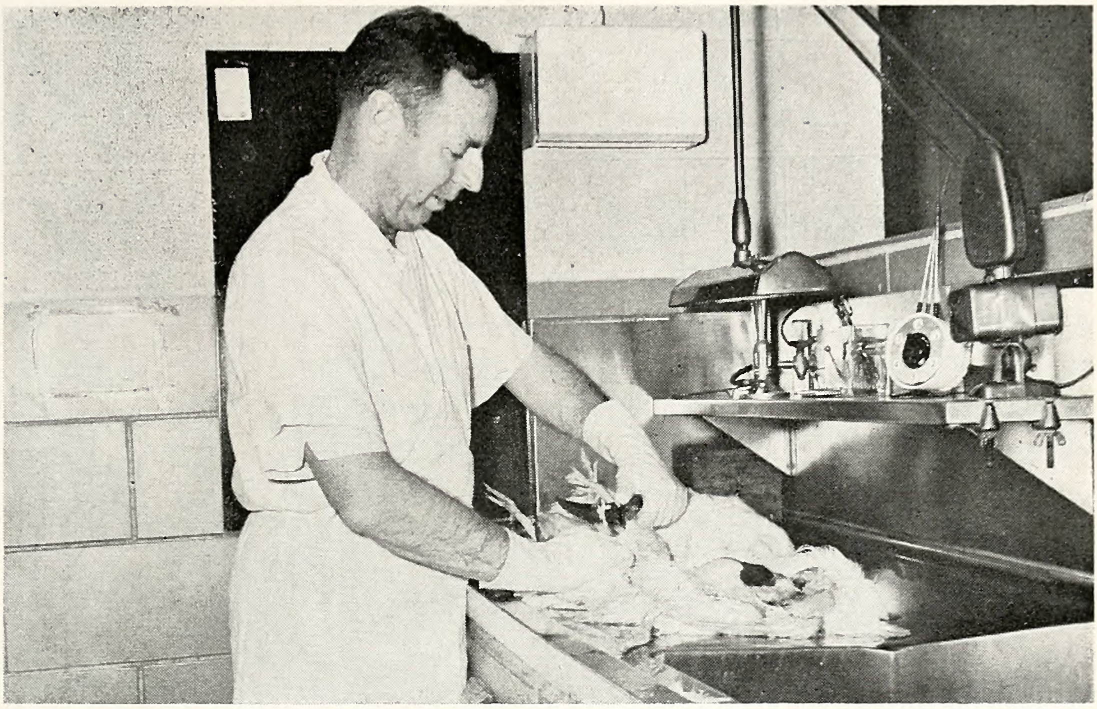
HATCHERY AND FLOCK INSPECTION

Poultry Specialists of the Veterinary Division have the responsibility for licensing hatchery and chick dealers and supervising their operations. These men conduct or supervise authorized agents in conducting pullorum-typhoid tests as required by law on hatchery flocks. Culling of such flocks is done at the time of the test.

The plate agglutination test is used on most flocks and is completed in the poultry house. The tube agglutination test (which requires that blood be transported to one of the Diagnostic Laboratories) is used on flocks shipping eggs to certain states which require it and on all turkey flocks. This work is done under the National Poultry and Turkey Improvement Plans. The poultry industry brings more than $200 million a year to the state's farmers. The number of chickens in hatchery flocks increased by 400,000 during the biennium. Present planned increases should amount to 600,000 during the next two years.

Summary of Pullorum-Typhoid Tests

	1964-65	*1965-66*
Number of chicken flocks plate tested	1605	1542
Number of chickens	5,579,943	5,575,097
Number of chicken flocks tube tested	20	40
Number of chickens	143,536	287,156
Number of reactors	30	0
Number of turkey flocks tube tested	85	80
Number of turkeys	166,248	207,631
Number of reactors	0	0



A staff veterinarian with the Central Livestock and Poultry Diagnostic Laboratory in Raleigh performs a necropsy on several chickens to determine what disease is causing losses in a poultry farmer's flock.

VESICULAR EXANTHEMA

Vesicular Exanthema of swine was eradicated in the state in 1954 and the country in 1959. Foot and mouth disease which affects all cloven footed animals and man has not been present in this country since 1929. However, Vesicular stomatitis, which affects many species of animals including cattle, hogs, horses, and man, is indistinguishable from the other diseases mentioned. It does appear sporadically in the state, so vigilance must be maintained to be sure that any outbreak of a vesicular disease is quarantined and identified by laboratory methods before spread to other premises has occurred.

ANAPLASMOSIS

Anaplasmosis is a highly fatal disease primarily of cattle, which is transmitted by ticks, biting flies and other insects, as well as the use of contaminated needles, dehorners, etc. A blood testing program, at owner's expense, is available. It is possible to eradicate the disease from a herd by testing. Elimination on a county or state basis should be feasible. A total of 5,451 blood samples from 155 herds were tested during the biennium, and 163 positive animals in 37 herds were found.

DIAGNOSTIC LABORATORY SERVICE

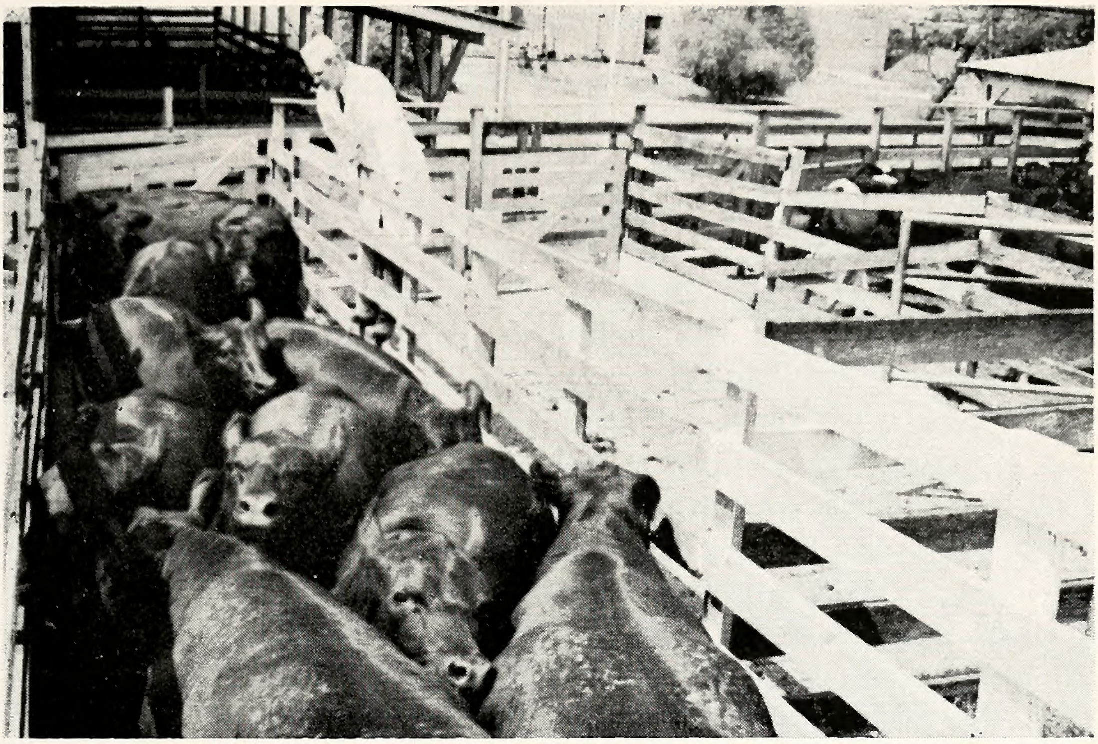
The state has nine animal disease diagnostic laboratories. The central one is located on Western Boulevard in Raleigh. It is staffed and equipped to diagnose the numerous infectious and non-infectious diseases of livestock and poultry. Branch laboratories are located at Edenton, Monroe, Murphy, North Wilkesboro, Robbins, Rose Hill, Shelby and Waynesville. The one at Edenton is equipped and staffed to diagnose diseases of livestock and poultry; the others are staffed and equipped essentially to diagnose diseases of poultry. Specimens from the branch laboratories are sent to the one in Raleigh for histological examinations, virus isolations, serum neutralization tests, hemagglutination inhibition tests and others too involved for branch laboratory facilities. Visits to herds or flocks are made by laboratory veterinarians when information to supplement laboratory findings is needed.

Personnel at the laboratories is handicapped in dealing with cases involving poisoning of animals; facilities for chemical analysis are practically non existent at the laboratory and such service is not available from other agencies.

The biennium has seen a tremendous growth in the demand for PPLO (*Mycoplasma gallisepticum*) blood testing of chickens and turkeys. The disease has caused great losses to the poultry industry through condemnations on the dressing line, and high costs of medication. The volume of testing has been sufficient to frequently disrupt other work at the five laboratories involved.

Summary of Diagnostic Laboratory Work

	1964-65	*1965-66*
Necropsies (livestock and poultry)	38,862	41,663
Serological Examinations (excluding PPLO)	329,366	515,000
PPLO (*M. gallisepticum*) Serological Examinations	45,319	201,287
Hematological Examinations	1,450	1,422
Histological Studies	5,943	6,021
Bacteriological and Mycological Examinations	12,939	10,230
Antibiotic Sensitivity Determinations	994	785
Virus Isolations	168	511
Other	37,306	38,700
Field Trips (herds and flocks)	628	648



An NCDA inspector is pictured here as he conducts the ante-mortem inspection of beef cattle ready for slaughter.

An inspector from the NCDA Veterinary Division meat and poultry inspection section is shown here making on-the-line inspections in a poultry plant.

COMPULSORY MEAT AND POULTRY INSPECTION SERVICE

This service has benefited the state's consumers, livestock and poultry producers, slaughterers and processors. Since its start in 1962 there has been a general upgrading in supervised slaughtering and processing establishments, such as new structures, remodeling, repairing and by the general replacement of obsolete equipment. The expenditures by members of the industry to enable them to meet the minimum requirements of the compulsory law and regulations amount to several million dollars.

The primary purpose of the law, regulations, rules, definitions and standards is to protect public health and provide wholesome food for human consumption. This service also assists in the eradication of livestock and poultry diseases. Diseased animals received at the slaughtering establishments are traced back to the herd or flock of origin. Blood samples from cattle are obtained at the time of slaughter for the brucellosis test. Inspectors report the finding of tuberculosis, cholera, erysipelas, and other infectious diseases directly to the State Veterinarian. They also make reports concerning the operations of rendering plants.

Personnel of the meat and poultry inspection service cooperates with the Divisions of Weights and Measures and Chemistry of this department, Health Departments, Water Conservation and local authorities. They also work with the Consumer and Marketing Service of U. S. Department of Agriculture and inspection services in other states with the objective of making meat and poultry inspection in the various states more uniform. These activities make available wholesome disease-free meat and poultry products which the consumer can buy with confidence.

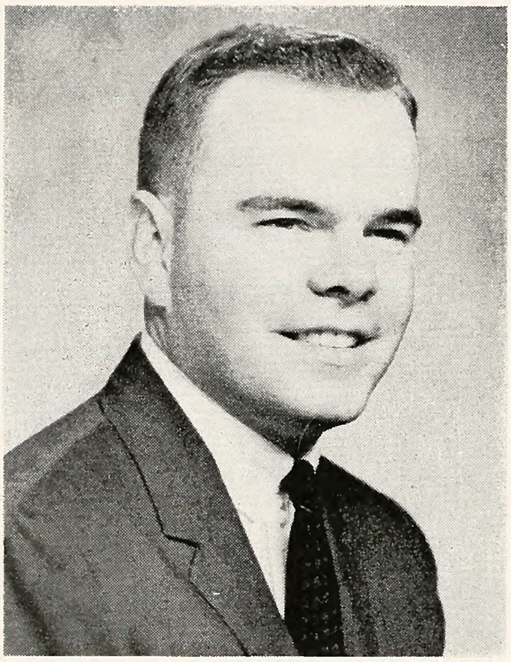
State inspection is maintained in 239 plants; 70 slaughter and process livestock, seven slaughter livestock only, 150 process meat and meat products from carcasses purchased at plants operating under state or federal inspection, 10 slaughter and process poultry, and two rabbits. Information has been received that additional plants will require state inspection in the near future. This will make it necessary to expand the present staff.

Summary of Meat Inspection Service

Slaughtered:	*1964-65*	*1965-66*
Hogs	559,471	447,100
Cattle and Calves	127,429	127,650
Sheep and Goats	1,379	1,249
Rabbits	4,726	7,113
Chickens	9,362,907	11,323,898
Turkeys	26,206	20,431
Carcasses condemned:		
Hogs	1,469	1,135
Cattle and Calves	291	302
Sheep and Goats	1	4
Rabbits	12	26
Chickens	109,269	223,098
Turkeys	270	157
Livers condemned:		
Hogs	206,709	186,784
Cattle and Calves	12,965	13,815
Sheep and Goats	98	142
Rabbits	212	74
Products processed under State Inspection (pounds):		
Sausage	18,659,069	18,883,092
Wieners	18,921,819	20,726,133
Hamburgers	13,402,474	14,881,070
Steaks, chops, roast, stew beef	10,303,043	10,814,500
Placed in cure, cooked, smoked hams, sides, barbecue, and other	30,560,354	26,374,595
Cheese, chili loaf and other	22,536,233	26,709,701
Sliced bacon, beef and other	6,309,409	9,892,410
Lard	5,887,255	4,259,158
Miscellaneous	2,073,348	2,091,431
Total	132,489,363	134,632,090

WAREHOUSE DIVISION

William G. Parham
Director



First of all, what is the purpose of warehousing? Usually it has two objectives. Sometimes both are combined; sometimes only one exists. To the farmer generally or to the merchant who places his goods in a warehouse almost invariably one of the objectives is to provide safe and adequate storage. To another group of farmers and to many merchants there is still another purpose and that is to place commodities in a collateral position.

The North Carolina Warehouse Law was enacted by the Legislature of 1919 to provide protection to producers and other owners who entrust their agricultural products to warehousemen licensed under the North Carolina Warehouse System. The law is not mandatory and, by the same token, the State Warehouse Superintendent is not obligated to license any and every warehouse. There are certain standards that a warehouse and its manager must meet before it can be licensed.

The North Carolina Warehouse System is big business. There are 113 cotton, grain and seed warehouses leased to the State Warehouse Superintendent for operation under the provisions of the North Carolina Agricultural Warehouse Act. The approximate total value of commodities that can be stored in warehouses licensed under the system as of June 30, 1966 is $134,000,000.

This system aids and facilitates the orderly marketing of agricultural products, primarily cotton, grain and seed, by the use of warehouse receipts as loan collateral. The negotiability and integrity behind these warehouse receipts aid immeasurbaly in the marketing of agricultural products. This warehousing system improves the credit and financial structure in agricultural marketing which, in turn, aid the entire agricultural business community.

The North Carolina Agricultural Warehouse Act of 1919 levied a gin tax of twenty-five cents per bale on all cotton ginned in 1919, 1920 and 1921. Today this fund created by the tax totals $661,000.00 and is used as a guarantee fund to back the State's guarantee of the integrity of receipts issued by warehouses licensed by the State.

The fund can, under the law, be used for securing first mortgages on warehouse construction. The purpose of this measure is to aid and encourage the establishment of warehouses operating under the system. The law requires that 10 percent of the fund be invested in bonds, thus permititng the remaining 90 percent to be used for warehouse construction. The law also specifies the kind of mortgage acceptable, the amount of warehouse value covered by the loan, and the time limitation for the mortgage to run.

The State Warehouse Superintendent makes a careful investigation before a loan is made to determine whether, in his opinion, the loan is safe. His findings are presented to, and must be approved by, the State Board of Agriculture, the Governor, and the Attorney General.

The interest derived from these investments is used to pay the expenses of operating the System. During its 46 years of operation the Warehouse System has paid its own way and has never had to ask for appropriations; however, appropriations may have to be requested in the near future due to the increased cost of operation. In the 1964-1966 biennium, $189,500.00 has been loaned from this fund for the building of cotton warehouses, and another $25,500.00 loan has been approved for the expansion of a grain facility. The System now has $524,530.22 invested in first mortgage loans on cotton warehouses and grain facilities.

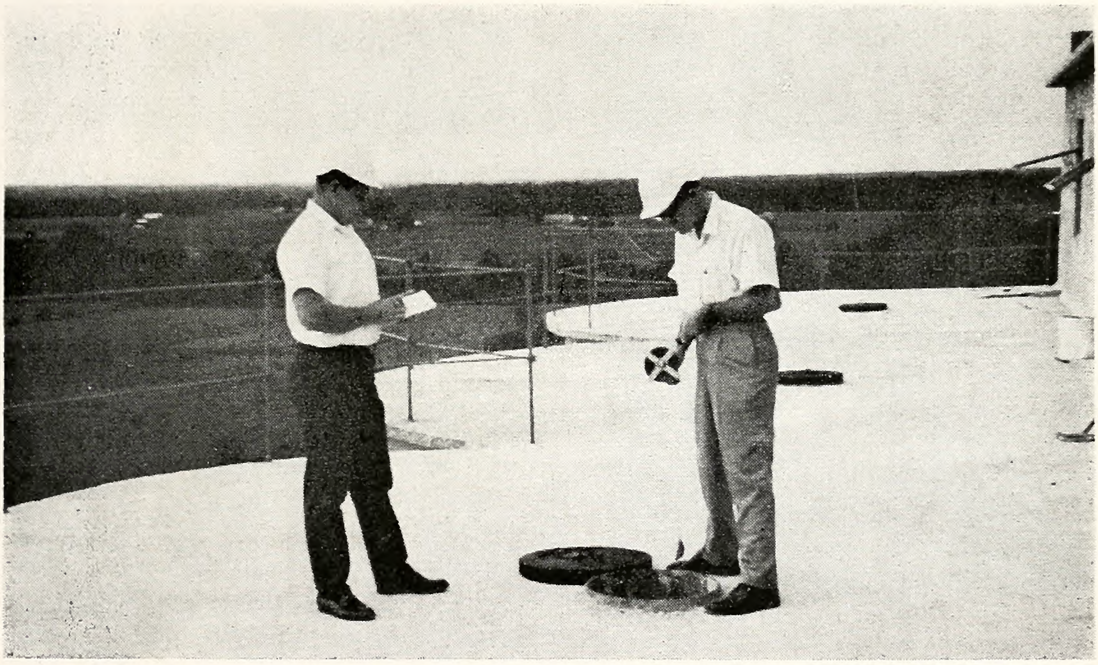
A cooperative agreement with the U. S. Department of Agriculture provides that all cotton and grain warehouses licensed under the State Warehouse System are also licensed under the U. S. Warehouse Act and are under federal as well as state supervision. These warehouses are inspected several times each year by federal examiners at very little cost to the State Warehouse System. Warehouses licensed to store other agricultural commodities are under State supervision only and are examined by

Cotton warehouses are given complete examinations at regular intervals to protect the depositors.

the State Warehouse Superintendent at least twice a year.

Under the law a prescribed form of warehouse receipt must be used. The receipt is an undertaking of a definite obligation by the warehouseman for the holder of that receipt. The receipt has to specifically identify the particular product, and if it is a product on which the identity cannot be preserved, it must state the grade and condition. The warehouseman must deliver what that receipt calls for. If it calls for No. 1 grain of a certain type or class he must deliver No. 1 grain and not No. 2 or No. 3. All commodities are sampled and inspected by a person who has demonstrated that he can grade the product in line with the standards that the U. S. Department of Agriculture has set up. The warehouse manager is held responsible for the condition of all commodities stored. The warehouse manager is required to furnish a bond to the warehouse system to assure his faithful performance.

A manager is not licensed and then permitted to go his way. The State Warehouse Superintendent maintains continuous supervision over the warehouse as long as it is licensed. This supervision is the backbone of the North Carolina Warehouse Law. A law without administration machinery and a competent and impartial supervisory service that actually enforces the statute fearlessly yet helpfully is just another law. In the selection of warehouse managers to whom licenses will be issued, in the obligations that warehousemen assume when they become licensed, in the character of receipts that they must issue, and in the impartial supervision exercised by the North Carolina Department of Agriculture and the U. S. Department of Agriculture over all licensees are to be found the qualities that differentiate receipts issued under the North Carolina Warehouse System from all other forms of warehouse receipts.



Warehouse examiners measure air space in storage tanks to determine the quality of stored grain.

The licensed capacity of warehouses licensed under the State Warehouse System is at an all time high. These warehouses have a capacity of approximately 855,499 bales of cotton, 2,073,000 bushels of grain, and 88,000 bags of ceed. The increase in the capacity of our cotton warehouses will probably taper off. However, the capacity and number of grain warehouses is expected to increase considerably in the near future, because many of the grain dealers in the state have found the necessity of being under a warehouse system and are improving their grain facilities enough to meet the high standards of the North Carolina Warehouse System.

June 30, 1964

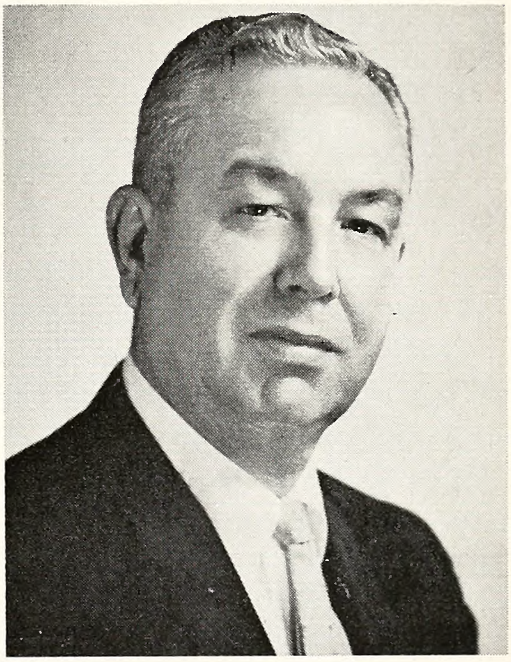
Cash on hand principal fund	*Cash on hand Supervision fund*	*First Mortgage Loans*	*Invested in Government Bonds*
$33,076.95	$20,495.55	$552,400.00	$88.000.00

June 30, 1966

$48,509.34	$31,585.56	$524,530.22	$88,000.00

DIVISION OF WEIGHTS AND MEASURES

JOHN I. MOORE
Director



Since the beginning of time the importance of weights and measures has been recognized. We find references to it in the Bible. George Washington in his first message to Congress asked for a bill to establish standards of weight, measure, and coinage. Our fifth President, John Quincy Adams, made the following statements in an address 140 years ago, which was true then and even truer today:

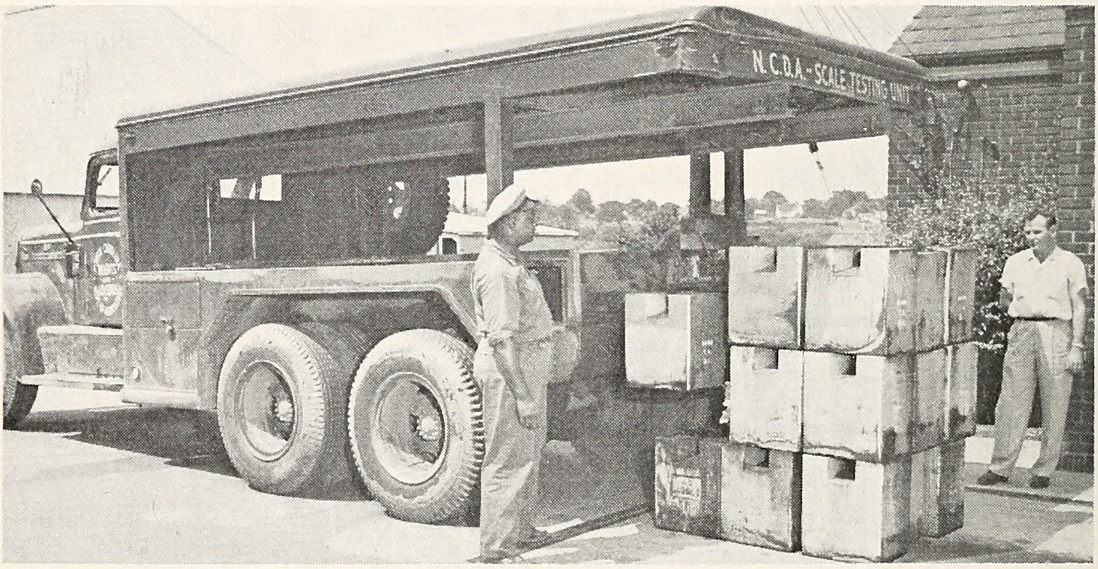
"Weights and measures may be ranked among the necessaries of life to every individual of human society. They enter into the economical arrangements and daily concerns of every family. They are necessary to every occupation of human industry; to the distribution and security of every species of prosperity; to every transaction of trade and commerce; to the labors of the husbandman; to the ingenuity of the artificer; to the studies of the philosopher; to the researches of the antiquarian; to the navigation of the mariner, and the marches of the soldier; to all the exchanges of peace, and all the operations of war. The knowledge of them, as in established use, is among the first elements of education, and is often learned by those who learn nothing else, not even to read and write. This knowledge is riveted in the memory by the habitual application of it to the employments of men throughout life."

Realizing the importance to its citizenship the Legislature of this state in 1927 enacted the "Uniform Weights and Measures Law" stating its purpose as follows: "for the purpose of protecting the buyer and seller of any commodity and to provide one standard of weight and measure which must be used throughout the state." With these objectives in mind, the Weights and Measures Division has attempted to gear itself to the rapid changes that have and are taking place in weights and measures by carefully reviewing its activities so as to carry out the intent and purpose of the Law. Every effort is being made to offer the greatest protection to its citizens as is possible with the resources at our command.

As with almost everything else, the Space Age along with automation has created an expanding need for a variety of new weighing equipment with increased precision, reliability, and speed. This need has been met with a multiplicity of mechanical, electrical, and electronic weighing systems.

During this biennium, in order for our personnel to be acquainted with these new devices, a school of instruction was conducted for a period of one week. We feel the results obtained are immeasurable. The school was also used to stress the importance of uniformity of inspections and their recording on new inspection forms. The revised forms are the first revision in 30 years.

During this biennium our two heavy-duty scale test trucks, which carry twenty-four 1,000-pound test weights each, have been called on for more tests than were possible to perform. This has been due to the increased use of heavy-duty scales by new and expanding industry in the state. The Legislature of 1965 approved our request for an appropriation to purchase a new heavy-duty scale testing unit of the same size and capacity as we now have in use, which will permit us to better serve the



These heavy duty scales are being tested with twenty-four 1,000 pound weights.

An inspector checks pre-packaged foods from a grocery store for net weight.

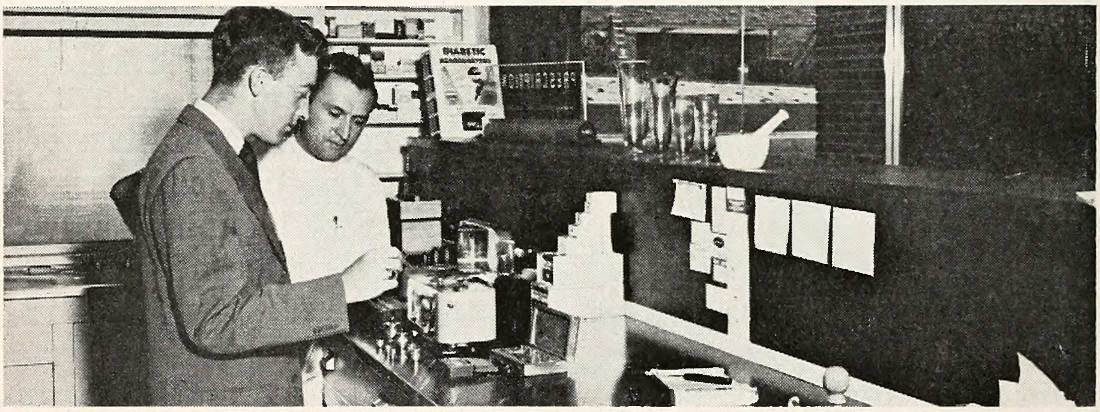
needs in this field. There have been unavoidable delays in getting delivery of the truck and equipping it, but we expect to have it in operation by November 1, 1966.

A smaller heavy-duty test truck, which carries a total 9,000-pound test load, is primarily used for the testing of livestock scales and has been quite active. It has tested each livestock scale at least twice each year. During this biennium a new regulation of the Packers and Stockyards Division of the U. S. Department of Agriculture has become effective, making it necessary that all livestock scales have a type-recording beam or a print-ticket dial. All such scales in the state are now so equipped. This offers quite a protection to both the buyer and seller of livestock.

North Carolina's rapidly expanding economy has necessitated the building of many new supermarkets as well as many new independent markets, and each of these contain a growing number of items which are pre-packed and which must be inspected and checked for accuracy as to their net content declaration. With the increased economy there is, of course, a demand for more weighing and measuring equipment which by law must be inspected. There are nine inspectors assigned to the task of general weights and measures inspection. These inspectors place a special emphasis on all types of pre-packaged products, including bread, milk, cereals, meats, canned goods, etc., to see that the public obtains the correct weight or measure of commodities in the packages.

Other activities of the division have been the inspection of concrete blocks to see that they meet the minimum specifications as to strength requirements; the inspection of newly installed tobacco curers located throughout the entire tobacco producing areas. In addition, there has been an increased use of cucumber graders throughout the eastern and piedmont sections of the state, and we have been required to inspect these graders, which grade according to size, and the scales used in conjunction with the buying of this commodity.

A tremendous increase in the use of liquid nitrogens and liquid fertilizers has resulted in the necessity for giving much greater attention to the measurement of these products, which cause some difficulty because of an inherent characteristic making them corrosive to metals while, at the same time, many are pressure materials. We believe the coming years will require us to place more emphasis on the inspection of all types of liquid fertilizers, as their use will increase even more rapidly.



Weights and measures inspector tests prescription scales in a drug store.

Certain phases of our laws require many hours of office work, and this includes the annual licensing of weighmasters of which there are over 3,500. It is required that all persons weighing tobacco in a tobacco auction warehouse, all livestock weighers, and all persons receiving a fee of any kind for weighing be licensed as a public weighmaster. Each application must be carefully reviewed before being issued a license. Each scale mechanic in this state is required to be registered, licensed, and bonded annually. This, too, requires careful consideration of the applicant and his ability to perform his work in an acceptable manner. All of the test weights used by these mechanics must also be individually calibrated at least once each year. This is a time-consuming operation, but is necessary to assure the accuracy of scales which a mechanic may service.

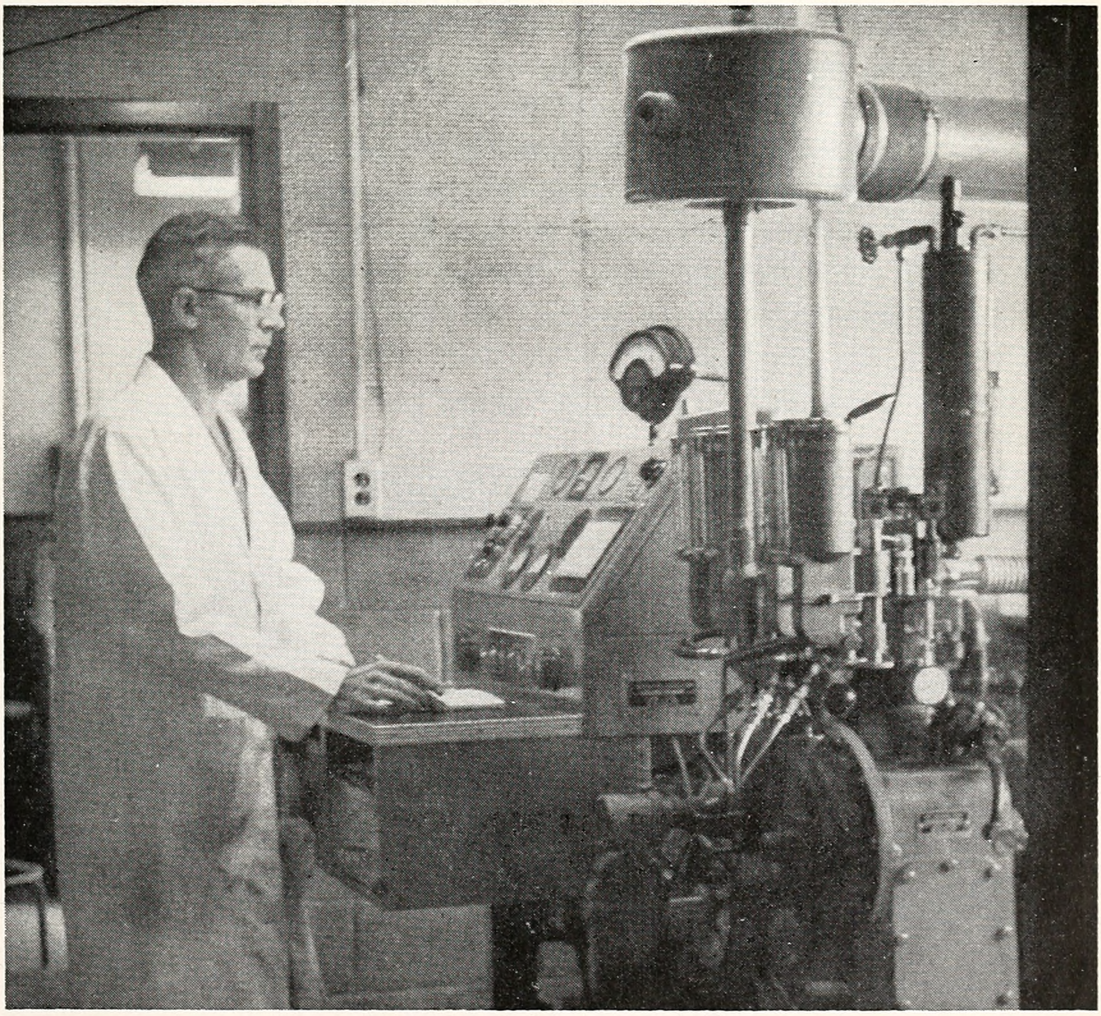
GASOLINE AND OIL INSPECTION DIVISION

JOHN I. MOORE
Director

The work of the Gasoline and Oil Inspection Division involves such a large scope of activities that it affects almost every citizen of the state.

Its inspection work covers both quantity and quality, as well as certain safety inspections. During this biennium, the Gasoline and Oil Inspection Board met, reviewed and brought up to date its quality specifications so as to make them compatible with the petroleum products now being offered for sale and the present-day requirements of equipment being operated.

The expanding population naturally causes other expansion to meet its needs. This has resulted in a number of additional



Division worker operates one of three machines which test the octane quality of gasoline.

service stations being built which have the most modern equipment available. This, in turn, means additional transport and delivery vehicles being purchased to service these additional outlets.

Each dispensing pump located at the many service stations throughout the state are inspected at least twice each year to assure to the motoring public that they are receiving accurate measurements of the products dispensed. All vehicles delivering petroleum products to these service stations, as well as the trucks which make deliveries of kerosene or fuel oil to homes or other places of business, also have their meters checked at least twice each year. This service provides a maximum protection to all purchasers for the assurance of accuracy in the petroleum products which they purchase.

There are now twelve mobile portable laboratories staffed with regular chemists who travel from station to station making routine analyses of the various products being sold to determine whether they meet the quality specifications that have been registered with this office. In addition to the routine analyses performed, these portable laboratories also make a selective canvass of the territory assigned to them and send in to our central laboratory in Raleigh samples which are given a complete analysis of involving six different tests. This service offers to the users of petroleum products the assurance of receiving the very highest possible quality of products.

The ever-expanding use of petroleum products has made neces-

This is one of 12 mobile laboratories analyzing gasoline and kerosene at retail outlets across North Carolina.

Inspector runs test for quantity, checking the accuracy of the gasoline pump.

sary a redesigning of all types of measuring equipment to speed up deliveries. The average service station dispenser today will deliver between 12 and 15 gallons of gasoline per minute, whereas only a few years ago the maximum speed was from 6 to 8 gpm. On delivery trucks delivering to homes, the trucks are equipped with pumps and meters which will deliver from 60 to 90 g.p.m., whereas a few years ago the maximum delivery on such vehicles was approximately 30 gpm. Many of the larger transports for service stations are delivering products up to 150 gpm.

The changes that are constantly taking place require that we continuously evaluate our inspection methods, as well as our equipment used in these inspections. During this biennium a school of instruction for all personnel was held in order to inform all inspectors as to the proper use of new equipment and to bring about a more uniform inspection program.

Also during this biennium a tremendous growth in the sale and use of liquefied petroleum gas has been noted. The Liquefied Petroleum Gas Law, which was enacted by the 1947 Legislature, was transferred to this division from the Labor Department by the Legislature of 1949, and at that time two employees were assigned to enforcement of the law, which involves quantity, quality, and safety.

The division is still attempting, to the best of its ability, the enforcement of this law with the same number of personnel as in 1949, even though the use of this product has increased more than ten-fold. A request for two additional LPG inspectors has been made in the budget for 1967-68 and 1968-69. We consider this a necessary request in order to assure safety to the users of this product and to others who may be injured by it in case of an accident. This products, unless handled under exacting safety requirements, can result in serious injury.